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Game News

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SEPTEMBER 1950 10 CENTS

The Story Behind the Cover



One cold day last fall a Pennsylvania Game Commission employee on vacation huddled in a duck blind on a North Carolina marsh inspecting a black duck he had just bagged. It looked like every other black duck except for an aluminum band around one leg, bearing the inscription "NOTIFY FISH AND WILDLIFE SERVICE, WASHINGTON, D. C." and an identifying number.

Upon his return home the hunter took a minute to mail to Washington the band and a short statement about when and where the duck was bagged. Soon a surprising reply was received, stating that the duck had been banded two months before by the leader of a Pennsylvania Waterfowl Research Project—a fellow employee—on the Reading Reservoir, about 50 miles from the hunter's office.

Pennsylvania sportsmen have no doubt noticed these leg bands for years. Since 1909 Federal agencies and other conservation groups interested in waterfowl have used banded birds to obtain vital management information. Now, with the Pennsylvania Game Commission embarked on a large scale waterfowl banding program, the bands take on added significance and produce evidence of the Commission's effort to improve conditions for waterfowl in the Keystone State.

The first step to have more ducks was research. Headed by [illegible] ren, shown on this month's cover banding a wild mallard, a research project was conducted for obtaining information on the extent of waterfowl nesting and wintering grounds in Pennsylvania, the location of major and minor flyways, and what to do to increase the duck population. Recently the Commission announced the appointment of Robert E. Latimer, an experienced employee and wild waterfowl enthusiast, as the State's waterfowl coordinator. Along the Susquehanna and Delaware, around the vast Pymatuning and Reading Reservoirs, and on various other waters throughout the Commonwealth, a new and vigorous effort is being made to improve food and cover, to bring more ducks within our borders, and to make Pennsylvania a better place for them to live.

Each state in the Union and each province of Canada plays an important part in the continental waterfowl drama. Some are cast in major roles, some in minor leads, while others provide "just scenery." With millions of ducks winging their way over Pennsylvania each year, the Keystone State plans to play a major role in the national effort to bring back the ducks.

The success of this program hinges greatly upon the cooperation of duck hunters in reporting the banded ducks they bag. Information obtained from such band returns enables the Game Commission to improve waterfowl habitat, produce more waterfowl and provide better hunting. By tracing records back to places where the ducks were banded, we learn what marshes, lakes or rivers should be developed and thus guide our management practices.

REPORT ALL BANDED WATERFOWL KILLED. A PENNY POSTCARD WILL HELP IN WATERFOWL MANAGEMENT

The Pennsylvania Game News

Published Monthly
by the
Pennsylvania Game Commission

Commonwealth of Pennsylvania

JAMES H. DUFF, GOVERNOR

★

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Charting a New Course

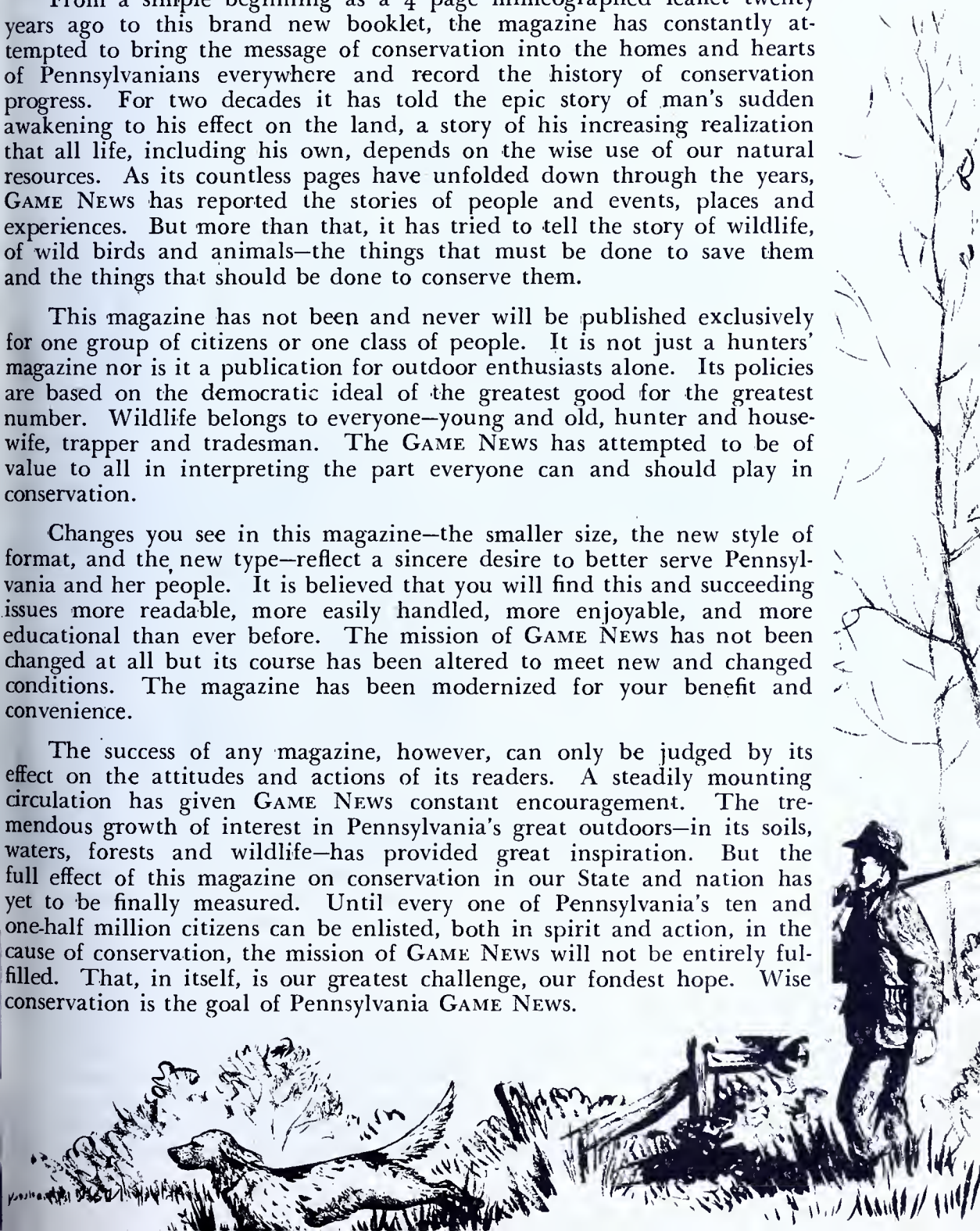
With this issue GAME NEWS embarks on a new course in conservation education.

From a simple beginning as a 4 page mimeographed leaflet twenty years ago to this brand new booklet, the magazine has constantly attempted to bring the message of conservation into the homes and hearts of Pennsylvanians everywhere and record the history of conservation progress. For two decades it has told the epic story of man's sudden awakening to his effect on the land, a story of his increasing realization that all life, including his own, depends on the wise use of our natural resources. As its countless pages have unfolded down through the years, GAME NEWS has reported the stories of people and events, places and experiences. But more than that, it has tried to tell the story of wildlife, of wild birds and animals—the things that must be done to save them and the things that should be done to conserve them.

This magazine has not been and never will be published exclusively for one group of citizens or one class of people. It is not just a hunters' magazine nor is it a publication for outdoor enthusiasts alone. Its policies are based on the democratic ideal of the greatest good for the greatest number. Wildlife belongs to everyone—young and old, hunter and housewife, trapper and tradesman. The GAME NEWS has attempted to be of value to all in interpreting the part everyone can and should play in conservation.

Changes you see in this magazine—the smaller size, the new style of format, and the new type—reflect a sincere desire to better serve Pennsylvania and her people. It is believed that you will find this and succeeding issues more readable, more easily handled, more enjoyable, and more educational than ever before. The mission of GAME NEWS has not been changed at all but its course has been altered to meet new and changed conditions. The magazine has been modernized for your benefit and convenience.

The success of any magazine, however, can only be judged by its effect on the attitudes and actions of its readers. A steadily mounting circulation has given GAME NEWS constant encouragement. The tremendous growth of interest in Pennsylvania's great outdoors—in its soils, waters, forests and wildlife—has provided great inspiration. But the full effect of this magazine on conservation in our State and nation has yet to be finally measured. Until every one of Pennsylvania's ten and one-half million citizens can be enlisted, both in spirit and action, in the cause of conservation, the mission of GAME NEWS will not be entirely fulfilled. That, in itself, is our greatest challenge, our fondest hope. Wise conservation is the goal of Pennsylvania GAME NEWS.



The Day Public

By Bill Wolf

Of Course, September 13, 2050 is a Century in the Future, but, Even Back in 1950 There Were Predictions of Just Such a Thing Happening, Unless . . .

IN THE YEAR 2050, all public hunting ceased in Pennsylvania. It was not prohibited by courts, but simply died a natural death because of certain developments in the century and a half following 1900. Of course, the courts did have something to do with it when they ruled in 1999 that all game was to be considered the property of the person on whose land it was found, and not the property of the people as had been the rule almost from the time the nation was founded.

The Governor met personally with the State Game Commission on September 13, 2050, in a session at Harrisburg which he had called, and to which he insisted every commissioner should come because "of the extremely important matter which we shall discuss."

The Governor went straight to the point. "Gentlemen," he said, "I have called you here to disband you. There is no longer any need for a State Game Commission in Pennsylvania, and so I am withdrawing the appointments by which you hold office. You understand," he was quick to add, "that this action does not imply any criticism of your work, on my part or from the public. I'm sure you realize why you are no longer needed?"

He looked about the table, and saw from the answering nods that they did understand. In fact, the commissioner from the Northern Tier took an envelope from his coat pocket and tapped it on the edge of the desk. "I understand perfectly well," he declared, "because this is my resignation. I intended to offer it to you, and you have saved me the trouble. We simply no longer have a job to do." He was slightly bitter.

"Exactly," the Governor agreed. "License sales fell to 89,200 in 2049, quite a drop from the peak reached in 1960 when more than 1,200,000 license fees were collected. And, of that 89,200 total last year only approximately one-half—or 45,000 hunters—gunned on public land. The remaining half hunted on private ground, which, as you know even better than I, is about the only place left. However, very few can afford the fees charged by the private clubs and landowner associations which have signed off most of the State."

The Commissioner from the Southeast shrugged his shoulders as though resigned to the inevitable.

"Exactly," he said. "In all the State we now have about one million and a half acres open to public hunting, and every bit of that is State-owned or controlled. That sounds like a lot of land for approximately 45,000 public hunters left in the State, but most of it is in deer and grouse country, and there is no place for the small game

Hunting Ended



hunter to go. Besides, we no longer have funds enough to care for that public land."

"Quite right," the Governor said. "The Game Commission today not only has no job to perform, but no money to work with. The income from 89,200 license sales is not sufficient, and half of that comes from members of the private clubs who have no interest in public hunting and resent having to pay a license fee in addition to their club dues. So, you are actually working for 45,000 persons—the few left who still hope to see the old days of public hunting return. A new hunting season is almost at hand and, frankly do you see any reason why you should continue trying to regulate a few acres for a few persons?"

There was no reply from around

the conference table. Several shook their heads negatively, silently.

"Very well, then. You are dismissed from your appointments with my thanks, and those of the public hunters you have tried to serve." The Governor stood up.

The gentleman from the Northern Tier got to his feet, too. "It's hard to imagine a great hunting State such as Pennsylvania once was coming to this," he said. "What do you suppose will happen to our employees now?"

"We'll have to give our personnel notice and help them get other jobs," the Executive Director said thoughtfully. "I suppose we can transfer our equipment and land to other departments."

"But after that?" the man from the Northern Tier insisted. "What happens in the State?"

"Well," the Executive Director seemed at a loss to picture the State without public hunting. "Well, no one will have to buy licenses and there will be public hunting of a sort for a little while on the State land. But there won't be any bag limits, no patrol by game protectors, no habitat improvement, and I guess what game is left will be killed off in a couple of years. Then there won't be any more hunting except on club property."

"It's almost like losing an American birthright," the Southeastern commissioner said, and the Governor paused in the doorway. "Can't anything be done about it?"

"Nothing" the Governor said with finality. "The time to have done something was a century ago, back in 1950, and we can't do anything about that. As I understand it, public hunting then was at the crossroads, and whether or not public hunting would continue depended chiefly upon the hunters themselves. As you have told me, and I have read, they ruined their own sport. A certain element among them damaged property, endangered human lives, killed out of season or over the bag limits. More and more landowners took to posting their acres until we have today's situation. Sorry, I didn't mean to make a speech, but it seems a shame . . ."

The events leading up to that September day in 2050 when the State finally gave up in its attempt to provide public hunting for the stubborn segment of hunters who wouldn't or couldn't pay for private gunning followed a definite pattern. The pattern first became noticeable soon after 1900 when the first real efforts toward restoring Pennsylvania's depleted game were made.

More game attracted more hunters, and the more hunters there were in the field, the more land became posted. This was true at first near the larger cities, but the increased use of the automobile and the improvement of roads soon made the condition state-wide. Landowners suddenly found their acres, even in remote farmland, overrun with strangers.

Most of them were tolerant at first, but the tolerance disappeared when the landowners found that some of the strangers had little respect for property rights. They burned with anger when they found a fence broken down by one of the uninvited hunters using their land, or when they found a pasture fence left open. Sometimes their cattle and other livestock were slain or crippled by careless gunners. Occasionally, even the farmer and his family were injured by hunters who fired first and looked second. Acts of vandalism were too common, with hunters deliberately firing into beehives, farm outbuildings, kicking over corn shocks and the like.

Looking back on those years between 1900 and 1950, it is easy now to see that all hunters were blamed for



the sins of a few; but the landowner had no way of telling the good from the bad. So he did the only thing that seemed sensible to him—he posted his land against hunting. Even then, however, he was willing in many cases to go along with a hunter who came up to the farmhouse and asked permission to gun on the posted land. Actually, the proportion of decent hunters was as high in 1950 as the proportion of decent landowners, but the acts of a few vandals made ugly evidence against the entire army of hunters.

By 1950, Pennsylvania was pockmarked with "No Hunting" signs. Gunning, of course, continued behind the boundaries of farms marked "No Hunting," but it was by invitation, or through specific permission, or under a peculiar fee system that sprang up. Sometimes the owner of large acreage, or several owners of adjoining farms would band together, and accept hunters for pay, charging them an outright fee for the privilege of hunting on the land, or else take them as boarders during the hunting season.

Large scale operations, in which a number of landowners banded together to control hunting on their holdings, gained momentum in the 1940's. These were usually called "Associations." One such Landowners Association closed off an entire mountain to all deer hunters except those who purchased a button from the Association. A similar group controlled all hunting and fishing on a good part of two townships.

The fees usually were not high, and the motive was not profit so much as it was an effort on the part of the landowners to keep out the undesirble element.

Another development of that period when public hunting was first endangered was the growth of a new kind of private club. There always had been private clubs in Pennsylvania, each of which controlled anywhere from a few hundred to thousands of acres of good hunting and fishing land, but most of them were for the very wealthy. At any rate, it cost a small fortune to join them, and the annual fee usually charged was more than the average man could afford.

However, in the 1940's a new type of club appeared *which could be afforded by the average man who was willing to spend more than a three-dollar license fee to insure his fishing and hunting.* These clubs were not exclusive, and would take in as many as a thousand members each, charging each one an annual membership fee of anywhere from $25 to $100. With the money thus derived, they

could lease large tracts of land for the sole use of their members. More "No Hunting" signs went up.

The men who joined didn't especially relish paying $25 to $100 for their hunting and fishing (the two usually went together in such clubs), but they felt it was worth it to have a definite place to go outdoors to hunt on patrolled land where the club's rules were enforced and the reckless or careless hunter was discouraged, and to fish in streams stocked with club money. Many of the clubs had more rigid rules and restrictions than those imposed by the State on public hunters.

In the years that followed World War II, lawbreaking reached a new high among Pennsylvania's public hunters. It was still a minority breaking the laws, but the minority was growing. Hunting out of season was common. More game was killed than allowed by daily or season restrictions. The road hunter increased, and endangered his own and other persons' lives by carrying loaded guns in his car. Too many hunters seemed to feel that the payment of several dollars for a license entitled them to kill and destroy as they pleased. And even without their destruction, the State was finding it difficult to keep ahead of the million hunters who poured into the field each year by 1950.

There were many who saw the danger to public hunting, and there were many efforts to avert it. "Learn to behave like sportsmen or there won't be any more public hunting," law enforcement officials warned. "Get acquainted with the farmers or landowners on whose acres you hunt, share whatever game you kill with them, make purchases from them if they have anything to sell, and conduct yourselves at all times as *guests,*" the various sportsmen's clubs warned their members.

Some sportsmen's clubs did yeoman work in trying to take down the "No Hunting" signs. During the wartime shortage of farm labor, various clubs created a labor pool to help farmers in their areas when harvest rushes were on. Some built stiles so hunters could get over fences without damaging them. Some made landowners honorary members of their clubs, to share in the clubs' meetings and fun.

The State Game Commission shared in the effort to open, or keep open, more land for hunting through its co-operative farm-game program. It had to act as an intermediary between landowner and hunter, and the job wasn't an easy one. The Game Commission had to guarantee the behavior of nearly a million gunners each time it went before a single farmer with the proposition that he open his acres to public hunting—and it's tough to be responsible for that many persons' actions. So the Commission tried to educate that segment of the hunting population that was causing trouble. It preached sportsmanship in its news releases, in schools, before sportsmen's clubs, in the GAME NEWS, and in every way that it could.

There were individuals who raised their voices. "Look," they said, "you can't expect perfect hunting for the payment of your license fee. One way or another, you are going to pay more for hunting in Pennsylvania if you are going to keep it public. Either you must be willing to spend more on your license fee to enable the State to maintain public hunting as it is maintained in private clubs, or you must spend money to cultivate those on whose land you would hunt. The day of 'free hunting' is over, and has been for nearly half a century. If you don't want to be restricted to hunting on the few acres of whatever club or association you can join, and want to think of Pennsylvania's millions of acres as being your own, then you must help keep them open. And you

don't help much by simply buying a license."

That's the way matters stood in 1950, generally regarded as the turning point in Pennsylvania's hunting.

Things looked bright for public hunting in the following several years. The State, the Federation of Sportsmen's Clubs, and individual clubs and persons actually were reducing the number of posted acres through their missionary work with landowners. But there was a slight business recession in 1953, and this, curiously enough, had an adverse effect upon the hunting picture.

Men were thrown out of work, money was scarce. Fewer persons took out hunting licenses in 1953 and 1954, but those who did often were jobless and had more time for hunting. Furthermore, the meat hunter, who was always a problem in Pennsylvania, really came into his own in this period. He wanted rabbits, birds and deer for the table, and didn't care how or when he got them. The wave of law-breaking created overtime work for the firms that printed the "No Hunting" signs that started to plaster the landscape anew.

The extraordinary period of prosperity that followed from 1955 to 1960 had an even worse effect upon hunting. Money was plentiful, nearly everyone could afford to buy guns and equipment, cars in which to travel to hunting grounds, and with the abundant money came further contempt for the laws.

Men who weren't sportsmen in any sense of the word were drawn into hunting because it was considered one of the things to do with all the extra cash floating around. They considered it a sport to try to dodge and outwit the game protector, secure in the knowledge they had money enough to pay the fine if caught with a couple of extra pheasants or for hunting out of season. The State Game Commission had been doing rather well with its regular crop of hunters in furthering sportsmanship, but the flood of newcomers engulfed both its educational and law enforcement facilities.

The situation reached its peak in 1960 when the all-time high in hunting license sales was reached with 1,200,000. With the record number of hunters came a record of another sort, a more unpleasant one. When the year's figures were complete, the Executive Director of the Commission was appalled by the total number of law violations. They, too, set an all-time high, and led him to issue a gloomy prediction: "Violation of the State's game laws reached such an unprecedented height during the 1960 hunting season," his press release read, "that the future of public hunting is seriously endangered.

Well, he was right, but it didn't take another "season or two." In 1961 the number of hunters dropped off, and those who went afield found almost all hunting land posted. Some landowners did it because they were irritated beyond endurance by the reckless hordes of hunters that charged across their fields in 1960, but more did it at the urging of small groups of hunters who banded together to form little clubs and associations to hunt on leased acres.

It was a crassly commercial period, and landowners signed off their acres as much to make money as through anger. The man who owned 100 acres of good hunting land was willing to give all gunning rights on it to several men who paid a hundred dollars for the privilege. Several such landowners could join their acres in a leasing project, and owners of large tracts could interest a private club of 50 or 100 members in paying well for hunting rights.

From 1962 to the year 2000 there gradually developed in Pennsylvania a close approach to hunting as it was done in England and in continental

Europe. There was still public hunting, but it was done on State-owned land, or on land so worthless for gunning that no one bothered posting it. Here and there a landowner resisted the movement toward private control of hunting on his ground, but the majority didn't. The State Game Commission and the sportsmen's clubs were nearly helpless, although the Commission did resume buying public hunting lands before its revenues fell off as the number of hunters declined. And, of course, the numbers did fall off because many no longer had any place to hunt.

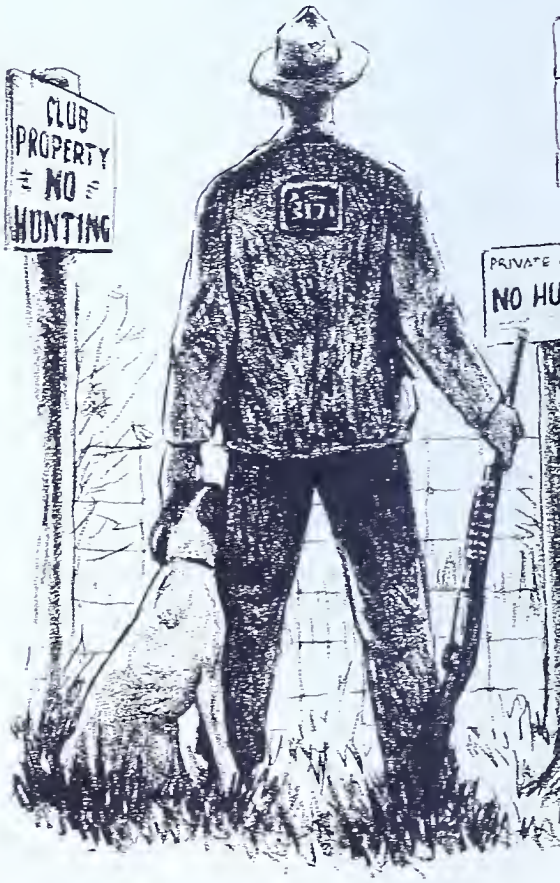
As in England, the landowner came to consider hunting one of the sources of income from his property, and eventually began to consider the game on it his own. In the 1999 court case mentioned earlier, a hunter was arrested for trespassing when he entered posted property to pick up a pheasant which he had shot. The landowner said that he stocked pheasants for the hunters who leased his land, that the public gunner was trespassing, and, anyhow, the pheasant he shot probably was one stocked by the landowner.

The case dragged through many courts because the 100,000 or so public hunters left in the State realized the importance of the landowner's attempt to claim the game as his own; but the outcome was the final court ruling that all game *did* belong to the person on whose land it was found, and that it was not the property of the State. This upset all previous legal opinion upon the subject, and was the final blow received by public hunting.

There wasn't an abrupt end to "free" hunting. Enough hunters fought the club and association trend to keep the Game Commission going, although on reduced funds, and it was urged by other State departments to keep up the work because of the esthetic value of game on State-owned public hunting grounds, parks and forests. City people could still drive through public grounds and take walks over unposted land and see an occasional deer, bear or grouse.

But the number of hunters declined steadily, and in the decade before the year 2050 hunting definitely became the privilege of the wealthy few. The well-to-do person who could afford to spend $100 to $1000 or more annually for hunting rights could find a place to gun. They began to protest paying $5 for a State hunting license (it had gone up to that back in the 1960's) and even the few remaining public hunters joined the protest because they felt they were getting nothing at all in return.

So, on September 13, 2050, the Governor met with the Game Commission in Harrisburg and said: "Gentlemen, I have called you here to disband you . . ."





Teachers and Conservation

By Ross L. Leffler

President, Pennsylvania Game Commission

THE prosperity of any state or nation is measured by the quality and quantity of its resources, both human and natural. Abundant natural resources are an insurance policy belonging to all the people, insuring against war, against want, and against poverty. As a state and nation we have asked our insurance to pay us dividends night and day until our reserves are depleted and our protection threatened. We must now protect and build up our reserves so that our state and nation are adequately insured.

In a democracy it is necessary that all citizens understand the terms of our insurance. Responsibility for future citizens knowing the terms of insurance rests with the school teacher. Read your policy—understand the conservation of natural resources.

OUR LAND

The nation's most essential natural resource is its good top soil. Fifty million acres of once fertile land can no longer be used for the production of cultivated crops because its top soil has entirely washed away. From another fifty million acres, half of the top soil is gone. Control of soil erosion has become one of the nation's top problems.

American agriculture has advanced tremendously in the cultivation of higher-yielding varieties of crops, in the application of fertilizer, in the control of insects and of plant diseases, and in the improvement of cultural practices through the use of modern machinery. These great strides of progress have been nullified by the losses of top soil through erosion. If erosion continues we can no longer have secure farm homes, adequate farm income, and a continuous flow of farm products to feed city people. We Americans cannot maintain our present high standard of living and this goes for the urban population as well as for the rural population. The city dweller who never saw a cow is involved as well as the man who milks the cow.

Babylonia, Chaldea, Assyria, Persia —where civilization developed—were not always barren and largely desert as they are today. Their peoples made them so by improper use—they failed to practice soil conservation; they allowed their insurance to lapse.

Reprinted by special permission from "THE PITTSBURGH TEACHERS BULLETIN," *February, 1948*

Select a farming community you know where the roads are poor, the farm buildings in need of repair, the homes without modern conveniences, the one-room school dilapidated. Inquiry will probably reveal a community of low moral and health standards. Examine the fields and you will find the top soil almost washed away. The history of the community will show that the early settlers didn't practice soil conservation and as their crop production declined the smart, healthy, energetic, and ambitious farmers moved to farms with more top soil. The less ambitious, less healthy, less energetic remained to eke out a poor living where the means of making a substantial living no longer existed. You as a taxpayer are called on to help support the community that can't support itself because its top soil is gone. This is the pattern wherever a natural resource is depleted.

As a teacher you can do something about it. Acquaint every citizen and potential citizen with the dangers of soil erosion; make every citizen aware of the effect of soil erosion on the lives of all the people (not only on farmers); teach an appreciation of soil in the lower grades and soil conservation practices in the higher grades.

OUR TREES

Forests represent an important item of working capital in our insurance reserve as well as our national economy. Forests safeguard water supplies, help prevent floods, and furnish raw materials for industries employing millions of wage earners. Forests must continue to supply even more raw materials if we are to maintain our present high standard of living. Steady jobs in industries using forest products can exist only if our forests produce raw materials steadily. Our forests can't produce steadily because we are using them faster than we are growing them.

Jamison City, Pennsylvania, was a thriving sawmill town of 1,500 persons in 1888. Its business district today is a bushy field. Jamison City today is a ghost town, a symbol of the old exploitation policy—"use the best, de-

USCS Photo

This gullied field, with the help of brush check dams and other conservation measures can become . . .



stroy the rest, and move on." Here is the pattern again: A natural resource disappears, unemployment sets in, tax delinquency thrives, population is reduced with the better element moving on and the least desirable remaining. The community becomes bankrupt and all citizens of the state, through taxation, help support it.

Forests are a replaceable resource. More trees can be grown. When forests are cut on public lands, thought is given to regeneration, but of the nation's 630 million acres of forest land only 196 million are owned publicly. It takes a long time to grow a tree and individuals and corporations (controlling the greater part of U. S. Forest land) do not have the foresight to plan a timber supply for future generations. True, there are a few examples of private enterprise developing a sustained yield forest and where these exist there are permanent towns, secure income for their citizens, and all the advantages that come with good planning, good management, and good government. Forests of the nation are sadly in need of management for improvement and sustained yield.

Planting trees is a noble endeavor to solve a gargantuan need. It is like trying to extinguish a blazing building with a bucket brigade. In the U. S. 77 million acres of farm land are so depleted by destructive cropping and fire that they need to be replanted. Since the beginning of time till 1940 (few trees were planted during war years) only 3½ million acres have been planted successfully by all agencies both public and private.

Fires are still one of the forests' worst enemies. Being careful with fire is an attribute of good citizenship just as going to the polls and voting is an attribute of good citizenship.

It is the teacher's job to interpret forest resources and their conservation to pupils.

OUR WATERS

Good water is a resource we can't get along without. It is estimated that a 150 pound man takes in 2,200 pounds of water a year directly as food and drink. Between 8,000,000 and

This field of cover, one of conservation's greatest assets, producing food for wildlife as well as man.



9,000,000 pounds of water are required to produce the meat products consumed by an adult person in one year.

Water out of control ceases to be an asset and becomes a liability. In 1936 floods took the lives of 88 persons, injured 2,822 more, and caused 212 million dollars' damage in Pennsylvania. Floods in May, 1942, on the Delaware and Lackawanna Rivers alone, cost 33 lives and 15 million dollars' damage. Repairing highway damage and removing flood debris costs the Pennsylvania Department of Highways an average of one million dollars per year; this sum is not an investment but an annual drain on the funds of the Commonwealth and contributes to a higher cost of government which every taxpayer supports.

During periods of low rainfall, lack of water flow influences the well-being of individuals, communities, and industries. When water flow decreases, it is necessary to build larger reservoirs. Many reservoirs are rapidly being filled with top soil washed from upstream.

The usefulness of water is often destroyed by pollution. Stream pollution is a menace to public health, a menace to harbor facilities, a cause for loss of recreation opportunities, and a barrier in the way of securing good water for domestic and industrial uses. Stream pollution results in increased government expenditures for which the taxpayers provide the monies. These expenditures are not outlays for investment but a perpetual annual levy.

Again the teacher's job is to let every pupil know the water resource problems. Emphasizing the economic loss to every taxpayer will help. Some answers to these problems are control of headwaters by practicing soil conservation, and by constructing many small ponds and reservoirs, and the improvement of water quality by reducing pollution.

OUR MINERALS

Minerals once used cannot be replaced. The United States is a leading nation of the world because the mineral resources within its boundaries are so varied and so abundant. Mineral production and processing together now make Pennsylvania the leading mineral industrial state in the Union. What will happen when they are gone? It isn't a pretty picture to contemplate.

The Wood mine in Pennsylvania was once the largest source of chromium in the world. Pennsylvania was once the sixth largest producer of nickel. Much of the lead for bullets used by the Continental Army came from Pennsylvania. These resources are gone and so, too, are the best of Pennsylvania's coal and iron ore.

OUR WILDLIFE

The waste and exploitation of the nation's wildlife resources is one of the sorriest chapters in our national history. But wildlife is a manageable resource that can be restored and is being restored. The science of managing fish and wildlife resources is relatively new but present day research in management is advancing the field by leaps and bounds. Pennsylvania's dense human population makes restoration more difficult—yet the success of the custodians of Pennsylvania's fish and wildlife, the Game Commission and the Fish Commission, have earned the envy of other states. Complete soil conservation practices and most forest conservation practices improve fish and wildlife environment, making restoration easier.

Successful restoration of wildlife resources depends to a very large degree on an educated co-operative public. The teacher's role here can be all important. An appreciation of mutual interdependence, protection, and competition in Nature can be developed in the grade schools, followed

by specific wildlife problems in the high school.

LIGHTS IN THE DARK.

This pictures of waste, neglect, and exploitation of all natural resources is indeed a black one, but there are several bright spots.

One simple remedy solves many problems in soil, forest, and wildlife conservation. This remedy is simply COVER. When the landowner gets a cover on his land, whether it be grass or forest trees, he is conserving soil, conserving water, reducing silting, producing a crop, restoring wildlife environment, and last but not least, bringing in returns to himself, thereby insuring a higher standard of living.

There is another bright spot in the picture. We, in the state and nation, have the human resources and technologies to plan ahead wisely if we choose to use them. The planners tell us their toughest job is to make the public realize the seriousness of our resource problem.

There is still another bright spot—Conservation Education. A few states have made the teaching of conservation mandatory in the public schools; a few have encouraged conservation teaching by furnishing teaching outlines and other aids; and a few have established summer workshops to instruct teachers to teach conservation. Our own state of Pennsylvania through its several departments of government and aided by numerous interested civic organizations, has set up The Pennsylvania Conservation Education Laboratory for Teachers where limited numbers of Pennsylvania teachers each summer may receive guidance in conservation teaching.

A slogan for teachers might be, "Teach Conservation of Natural Resources—Our State and Nation's Insurance Against War, Poverty, and Want."

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By Archibald Rutledge

PART I

IT was in the cabin high over the hemlock-hung Juniata River that Jefferson Wise was born; incidentally, his father had been born in the same house; and his grandfather, the Indian, killed by Chief Bald Eagle, had been reared on that very mountain farm, within hearing of the music of that river over its rocky bed. When you are in the Juniata country, you are neighbor to some of the wildest country east of the Rockies—a rugged region of rugged men—a region in which nearly everything in Nature seems appallingly to be standing on end. But, mentally, nothing there is topsy-turvy. Men, dogs, bears, mountain-lions—these are as sane as the wilderness can make them—the wilderness, healer of hearts, balm of hurt minds, surgeon to the soul.

It all happened long ago, when panthers still roamed the wilderness of the Pennsylvania mountains, and hardy pioneers hunted them with hounds.

There are those who may doubt that the hound Bolio had a soul. Let the hearer of this tale judge of that. I believe that had Jefferson Wise, his owner, come upon the title, "The Hound of Heaven," he might have accepted it as a true description of his beloved dog.

The business really began that rainy September night. Autumn was palpably coming; and in those high altitudes it arrives urgently. The hemlocks surrounding Jeff's lonely cabin wept in the shower; the gross rhododendron thicket roared under the rain; the falls deepened their thunder; and over them wraths of spume waved mystic arms as if they were white enchantresses, alluring. It was a night to sleep. But the great hound, Bolio, to whom the rain and the darkness were as challengers to his courage and his watchfulness, was wide awake. Thirty yards in front of the mountain home there was a huge shelf of rock jetting over the


The Painter &
The Pioneer
E. B. Ned Smith

gorge. The drop was a sheer hundred feet, to boulders as big as seashore bungalows. It was on this dizzy platform, beetling over nothing and death, that Bolio often slept by day, and watched by night. And on that night, Jeff Wise heard him heave his bulk from the porch floor, stalk with his nail-clicking walk to the steps, amble down them in stately fashion, heading for the platform, growling the while in a manner to make the roaring falls hang a somewhat diminished head.

"Something's hereabout," Jeff said to his wife; "Bolio says so, and that hound is one dog that don't lie."

The mountaineer slipped out of bed, drew on his coat and trousers, and in his bare feet went to the front door. Before he opened it, he picked up his rifle from the deer-horn rack in the tiny hallway.

When Poe opened the shutters, anticipating I know not what, he reports that there was darkness there and nothing more. Jeff encountered darkness, a rainy wind, wild dewy aromas from lashed hemlock and pine—and the sounds of a bitterer strife than those of the elements. The hound Bolio, if he had gone down toward the rocky platform to meet an enemy, had evidently not scouted in vain. In the neighborhood of the black cliff there was a war right now. Even a great war, a world-war, cannot, in its essence, be more than an individual encounter. The enemy usually is one man. At any rate, the moment Jeff Wise opened the door, he knew that Bolio and some militant visitor were doing a dance of death on the black shelf that jutted out over eternal night.

"God A'mighty Kingdom," muttered Jeff, meaning no irreverence at all, "but I must have a light."

Darting into the kitchen, he fumbled for a moment with match and lantern. He did not go for his shoes. He was again back at the door within a very few moments. But now when he opened it wide, naught could he hear save the tumbling falls, the roaring rhododendrons, the lisping hemlocks. The war was over. Down the steps went Jeff, down the streaming pathway toward the cliff. Darkness and rain and wind held and rocked the world. The earth was like a dying child which a grieving mother cradles closely, over it weeping wildly cold tears.

"Damn," said Jeff, halting near the glimmering black platform. The word seemed to satisfy his desire for expression. All the sounds he now heard he perfectly understood. But the wild tumult of encounter and struggle—this was stilled.

"Damn," said Jeff. "Did they slip off this here rock?"

The wind moaned in the mountain-pines. The rain swept like a phantom host across the mighty gorge. The night was filled with voices of autumn, voices of change.

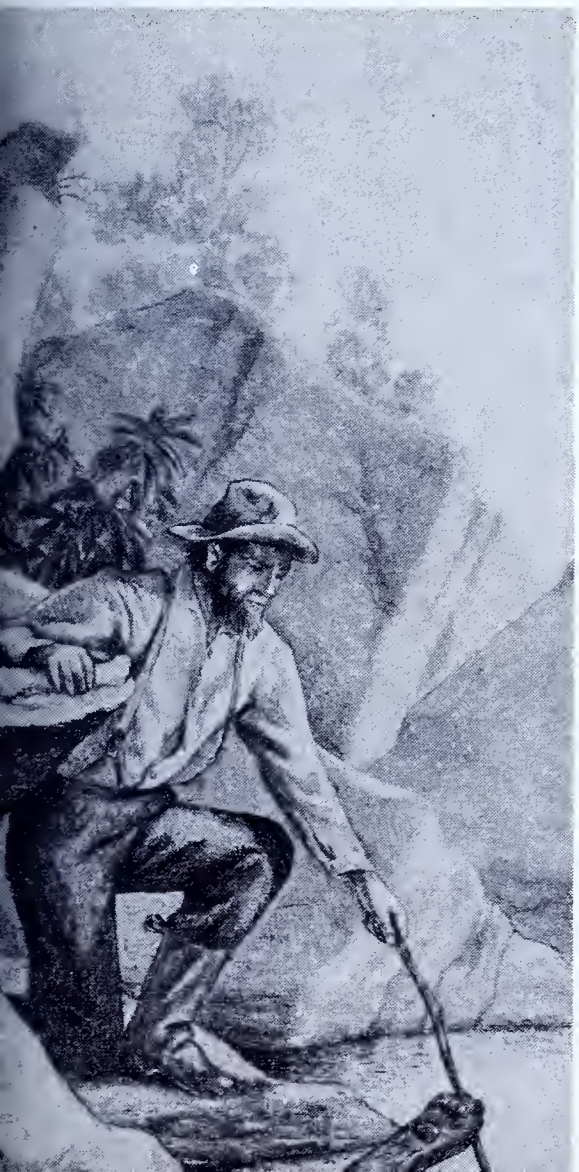
"Damn what done it," Jeff commented with the vigor of elemental bluntness.

He called the hound. His tone rang challengingly above the steady tumult of the storm. But he got no answer. Jeff had never read *Hamlet;* nevertheless he felt that for Bolio the rest was silence.

"I can't do nothing more tonight," the mountaineer told himself. "Drat my Sunday suit—what will I do without Bolio—now the b'ar season is a-comin' on? I have had dogs what would have give me pleasure to see slip off yon rock; but this one—I'd almost as soon go over myself. Tomorrow I can tell—unless he's dropped into the river and been washed away. And he did it a-guardin' us, too. Damn. What a dog! I don't know what he met, but I'll bet a thousand dollars out of my next week's salary that that stranger thought he'd run plumb into a mangling machine. If Bolio went off that

rock, he had company, that's sure. It would be just like him to turn up here tomorrow morning."

But on the following morning, with the rain over and the sky clearing, the great black hound did not appear. Jeff Wise was up by daybreak; and his chief business was to find his dog. He woke to a world washed clean; to delicious fall fragrances; to misty hemlocks and a cloud-filled gorge. Before the sun was up, he had been out on the platform of rock; he had searched the wooded brink of the canyon. But not a sign remained of the desperate struggle that had been waged. What the night had concealed, the day could not divulge. The evidence of that obscure and fatal encounter the storm had completely obliterated. The hemlocks shed their rainy fragrances as before; the falls roared their ancient mountain anthem; the rhododendrons shivered dewily, shedding silver drops into their dusky shadows. Giant red dahlias in Jeff's yard seemed to mock him with the affluence of their gorgeous beauty. After such a loss as Jeff's, triumphant beauty may be repellent. The world for the mountaineer was changed. It would be only a month before the bear season—and Bolio was gone. There was an old bear over on Black Mountain the Jeff Wise coveted with a mighty desire. But he would be helpless without his dog.



After breakfast he made his way down a bright-pebbled path through the kalmias toward the falls. He wanted to search among the boulders directly beneath the rock platform. But his heart was heavy; for his search, if ended successfully, could but confirm his worst fears.

A half-hour's painful climbing down through the reeking thicket and over the rocks tumbled in mad fashion near the base of the gorge, brought Jeff almost under the strange shelf-like rock jutting from the tremendous cliff above.

And now Jeff began to search—rather drearily—dreading to find the thing for which he looked. If the strugglers had indeed fallen from that beetling black rock, the plunge had been dreadful, the momentum acquired, appalling; the impact—death. Miserably Jeff searched for Bolio. The waters of the Juniata River had been up among these very boulders last night; but now they had subsided somewhat, leaving the rocks glistening, treacherous, satiric. Had they had a silent grim part in a tragedy? Jeff wondered. Their shining peace mocked him.

Suddenly the man was aware of a heavy paw waving helplessly in a

frothy eddy behind a black boulder. There was a deep pocket there—a place of fresh backwater in which Jeff had caught many a brook-trout. Now the pocket held a strange visitor. The massive paw swayed helplessly, childishly.

"Durn my hide—hit's a painter," muttered the mountain man—"and drowned as dead as Noah. Now, let your eyes light on this,"

Jeff grasped the foreleg of the huge beast and drew it out of the foamy pool. He dragged it over to a rock with a flat top. There it lay—a splendid mountain-lion—but now singularly limp and distorted. There seemed to be nothing left of the superb creature's shape. Jeff ran his hand tentatively over it.

"It wasn't drowned," he said; "it fell off that rock. There aren't any bones left in it. And my Bolio—"

Pathetic was the look that Jeff cast at the ominous rock, far, far above him. Yet in his heart there was something like grim triumph. Bolio had encountered what is, at close quarters, for a dog as formidable an enemy as can be met; and the great hound had thrown his antagonist from the cliff. That much, at least, seemed clear to Jeff. Nor was he beneath appreciating the epic nature of that titanic fight. Bolio the valiant had spent his might against one of the real terrors of the night and of the lonely gorge; and he had at least brought the battle to an equal conclusion.

"If he fell too;" said Jeff, "I reckon he was washed away."

Wistfully he looked down the mighty gorge, now serene in bridal mists. No great-hearted lover, I think, "staring into the sunset whence his April love has fled," could with more longing have gazed into those beauteous mocking mists than did this humble mountaineer. But Bolio had not vanished incontinently. He had left his mark, his sign. Here was the dead body of his enemy.

"God, but he died game," Jeff muttered. "I don't b'lieve a man could have died gamer. Damn if I would fight a painter on that rock up yonder."

Jeff's feelings toward his hound were precisely Rudyard's toward Gunga Din.

A further search among the wild ruin of rocks yielded nothing more. At the end of an hour the mountaineer abandoned his quest. The pulp-like carcass of the panther, he hauled to the river's brim and hurled it in.

"Damn tom-cat," he muttered; "the fish will eat you."

He watched the tawny-hided beast swirled away by the mad torrent; then he turned and climbed with a heavy heart to his cabin on the cliff.

The First American Speaks

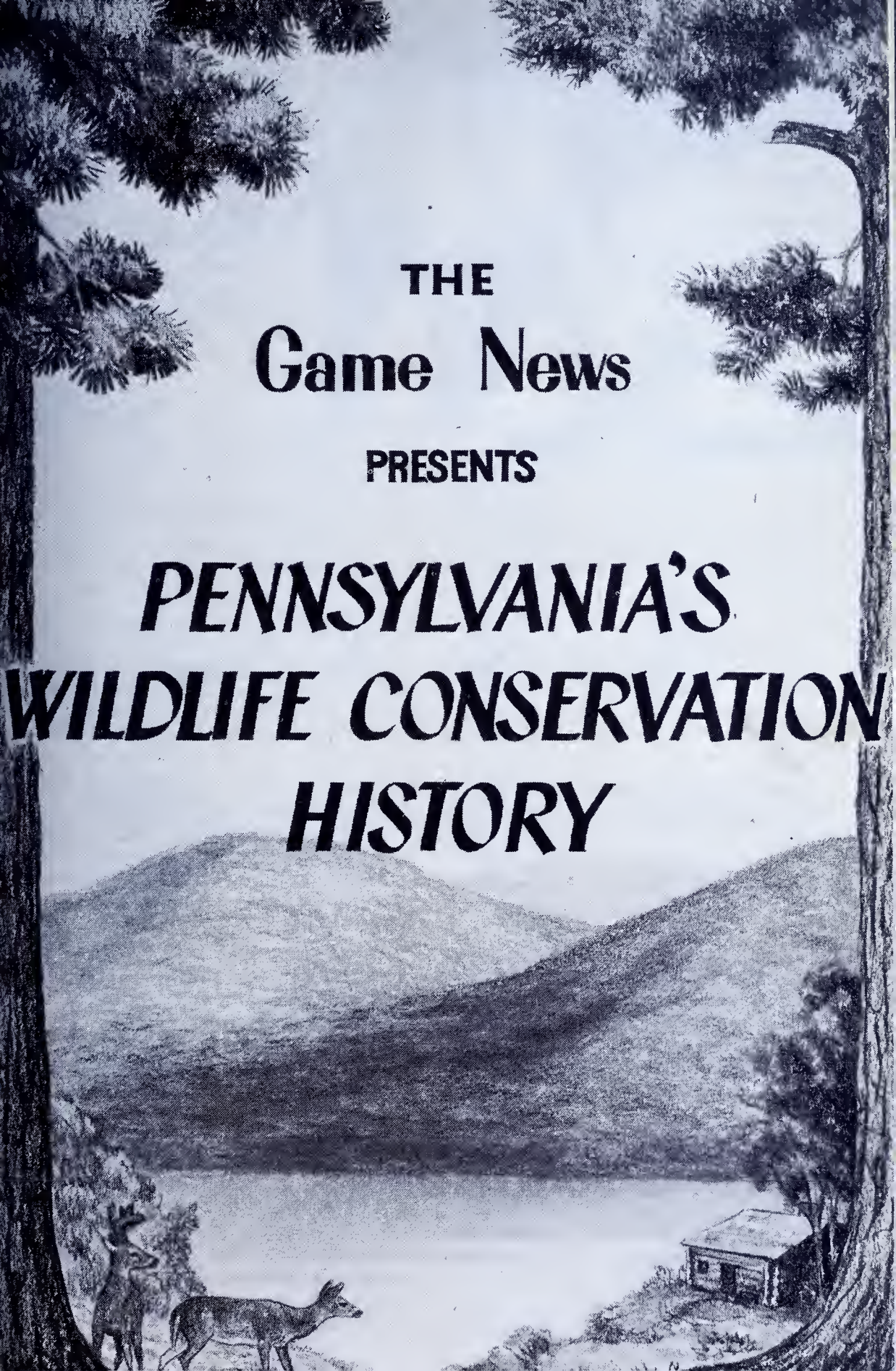
A Cherokee Indian of Oklahoma sums up the white man's effect on the landscape as follows: "White man crazy. Make big tepee. Plow hill. Water wash. Wind blow soil; grass all gone. Squaw gone, papoose too. No chuckaway, no pig, no corn, no hay, no cow, no pony. Indian no plow land. Keep grass. Buffalo eat grass. Indian eat buffalo. Hide make tepee, moccasins too. Indian no make terrace. No build dam. No give a dam. All time eat. No hunt job. No hitch hike. No ask relief. No shoot pig. Great Spirit make grass. Indian no waste anything. Indian no work. White man heap crazy."

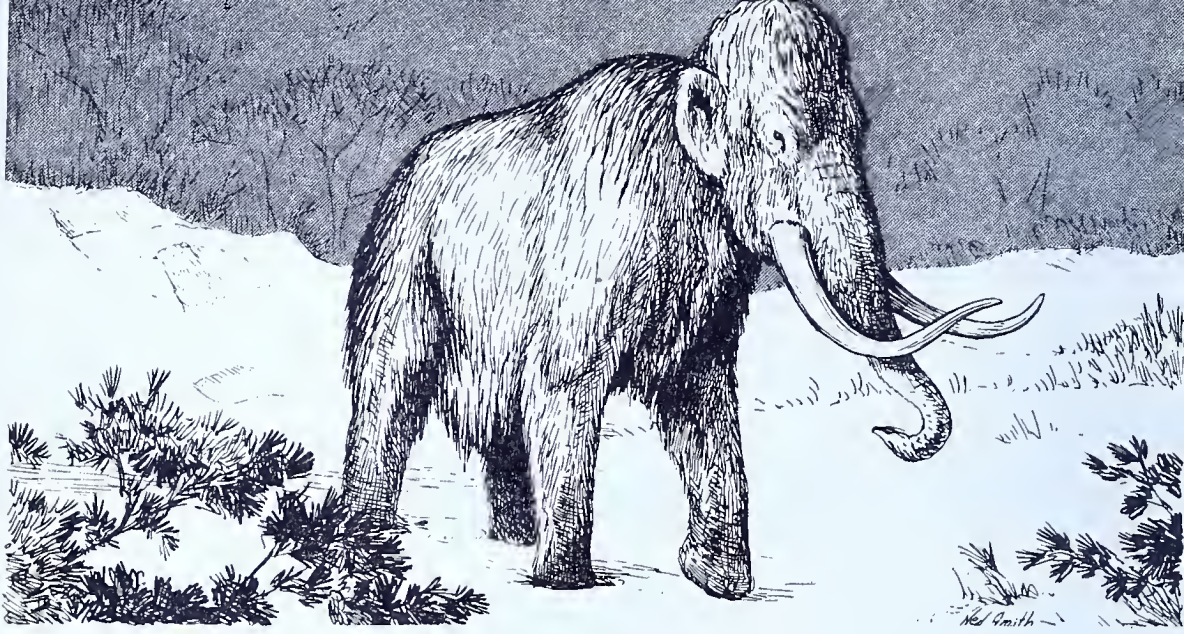
THE

Game News

PRESENTS

PENNSYLVANIA'S WILDLIFE CONSERVATION HISTORY





ACKNOWLEDGEMENTS

Several years on the part of James N. Morton, former Commission employee, and Leo A. Luttringer were spent in accumulating the data and compiling the material contained in this history. It was subsequently coordinated by Bill Wolf, Philadelphia, and finally completed in its present form by Mrs. Grace O. Beach, Pittsburgh.

Nature Sets The Stage

CHAPTER I

THE physical shape of what is now Pennsylvania was determined far in the remote geological past. The bucklings of an earth in the throes of formation heaved up great mountains and depressed vast plains. It was a raw land of bare rocks and lifeless flatlands.

Wind and weather went to work on the bony crags, which must have looked much like the Rockies today, and began the process of wearing them down into the smooth and rolling hills we know now. Furious storms raged around the peaks and the torrential rains washed sediment into the valleys where life first appeared in the ooze and slime of the mud flats.

Vegetation preceded higher animal life by many ages and the swamp deposits which became our coal beds were laid down long before the first reptilian forms slithered and waddled across the marshy plains or lived and died beside big inland seas.

Some of the earlier and more primitive reptiles left their traces in the coal of the Carboniferous period, but the great Age of Reptiles followed this geological era.

Although the eyes of no human hunter saw them, "big game" really existed then. Dinosaurs, ranging in size from those scarcely larger than chickens to giant forms, dominated the wildlife of that age. Some walked across the broad red mud flats of what is now York County. The mud flats hardened into red rock, the ages passed and time carefully hid and preserved the dinosaurs' tracks so well that they have only recently been uncovered.

Weird three-toed and four-toed beasts, like figures from a hunter's nightmare, left similar imprints which were uncovered thousands of

years later in the Trostle Quarry near Pondtown Mill in Adams County.

The dinosaurs and other reptiles vanished from the Pennsylvania scene and other still higher forms of life replaced them until finally the area became a hunter's paradise, had there been any humans to hunt the animals. True birds made their first appearance and there followed a procession of giant creatures—elephant-like mastodons, the saber-toothed tiger, huge bears and beavers as well as peccaries, tapirs, musk-oxen, bison, wolves, carbou, moose and elk, all much larger than their descendants today. There were panthers, lynx, giant sloths and the ancient ancestors of the horse. It was truly a land rich in wildlife.

Then came the vast ice sheets of the Glacial period. Many of these creatures were caught in its icy fingers, others were driven south, never again to appear here. The glaciers also put the finishing touches on the contours of our state.

The crushing ice ground the tops off mountains in the northern part of Pennsylvania and gouged out hollows which became lakes when the glaciers retreated and melted. The solid icy blanket receded to the north and dropped from its embrace, boulders and rocks which it had carried along like pebbles. We stumble over these glacier-bourne rocks even now when hunting in the northern tier of counties.

There have been no great geological changes since the Great Ice Age and thus our hills and mountains are much as the ice cap left them—age-old and rounded by time, except that a kindly and inexhaustible nature covered them with forests and green things again.

Close on the heels of the retreating ice came the majority of the animals that had been driven south. Soon after, the first human being appeared on the scene. There is some evidence that these earliest humans, the American Indian, saw and hunted the giant mastodon and other animals which now have become extinct.

At any rate the first hunters had appeared in the area. From the time the first human killed the first animal or bird on the ground that is now Pennsylvania, the region's wildlife and the happiness and well-being of its human inhabitants became inextricably bound together. It is so even today.

We can only read the evidence of the prehistoric era from the record in the rocks, from deposits in caves and swamps. Ancient animals sometimes fell through chimneys into caves and perished there; some crawled into caves to die; still others were dragged into caverns by large and carnivorous animals.

When the Port Kennedy cave was opened in 1870 near Valley Forge, it held the bones of the mastodon, giant sloth, saber-toothed tiger, peccaries, tapirs, huge bears and thirty-six other extinct species. Many other caves have yielded much evidence of prehistoric times and a small swamp near Saltillo in Huntingdon County yielded mastodon remains.

How many of these animals were still here when the American Indian appeared and how much he took part in the extinction of any species is unknown. Perhaps he helped in eliminating some which were already dying out before he arrived, but of this much we are certain: Conservation came into existence with the arrival of man.

It was a rough sort of conservation to be sure, but we have historical evidence of how it worked. The American Indian of the time of this State's first settlement lived by fishing, hunting and a haphazard kind of agriculture. When a group of Indians pitched an encampment, they stayed there until the supply of game and fish was exhausted. Then

they would move on to another place and thus give the wildlife in the first location a chance to recover.

Since the depletion of the game supply meant moving day, the Indians were careful not to kill any more food than they needed. Furthermore, killing game was hard work with a bow and arrow, pitfalls and snares. So why slaughter more than was required for the day or for drying and smoking for future use? The individual would have felt foolish if he had slaughtered needlessly and the tribe would have disapproved. That, in effect, was conservation even as we know it now—the careful harvesting of the game supply.

Pennsylvania was truly a happy hunting ground then. Except for some natural meadows and a few rough mountain tops, the entire section was covered with forest. Huge trees stood as sentinels on guard, silhouetted against the sky. Vegetation of all kinds made a lush carpet that covered the hills and valleys making an almost impenetrable wilderness. A virgin and unspoiled land of rugged beauty.

In the western part dwelt great herds of bison, or buffaloes, which fed in the grassy valleys and cut deep trails through the woods to salt licks and water. The wapiti, or American elk grazed in the meadows or browsed in the higher mountain country. White-tailed deer were everywhere and bears roamed through the hills in search of food. The soft-footed tawney panther stalked its prey along the animal trails, grey wolves hunted in family packs, wildcats and even Canada lynx dined on the abundant wildlife.

Streams and lakes teemed with fish and along their banks and shores lived the fur-bearers. Migratory waterfowl flew in vast flocks overhead on their north-south round trips, hordes of passenger pigeons shadowed the sun, ruffed and pinnated grouse were so unafraid they could be killed with a stick. A sportsman's dreamland, but that was before the white man arrived and the first cloud appeared on the horizon to cast its ominous shadow over the scene.

Two Black Centuries

CHAPTER II

NATURE through the ages set the stage for the next saga of our history—the coming of the white man. Only a few penetrated the wilderness of Pennsylvania prior to Penn's Colony at Philadelphia in 1681. These earliest newcomers however, introduced a new kind of economy to the Indians. They were willing to pay in merchandise or money for any furs the Indians cared to sell.

So long as the Indians and first white settlers killed only for their own food and skins, wildlife was not greatly endangered, except for some of the harmful kinds. But that situation did not last long. Pioneer after pioneer followed the trail westward in a never ending stream. Cities, villages, lumber and construction camps grew in size and number, creating an ever increasing demand for game as food and fur. Game and fur took on a commercial value; thus began the second phase of wildlife management, perhaps wildlife mismanagement would be the better term.

No white settler ever set foot on any territory no matter how remote

or difficult to reach that he did not find an abundance of wildlife. The supply seemed inexhaustible at first as the colonists pushed west from Philadelphia and they squandered recklessly the natural resources built up through the ages.

Take a look at the modern stream and lake map of Pennsylvania. The first settlers named these waters and there are many Beaver Runs and Creeks, Fishing Creeks and Trout Runs, small and large streams containing Elk, Buck, Doe, Pigeon, Salt Lick, Mud Lick, Panther, Buffalo and Bear in their names, bearing testimony to an early abundance of wildlife.

There are Bull Runs, too, and these apparently got their name from the settlers' habit of calling all bisons "bulls". Clearfield got its name from the fact that these "wild bulls" grazed so heavily there that they cleared large tracts of all undergrowth, giving them the appearance of cleared fields.

The Pennsylvania buffalo—which resembled the woods buffalo although they were larger and darker with some of the males coal black except for light-tipped hairs around the nose and eyes—was doomed to early and inevitable extinction. In the first place there was no room for it in an agricultural section. A herd could ruin a season's work by trampling across a planted field.

One tragi-comic incident is reported of a settler in Western Pennsylvania who built a log cabin with the usual projecting log end at the corners. The big, dumb beasts of the vicinity discovered that these ends were ideal places to lean against and scratch their shaggy hides. Their great weight caused the cabin to sag and what they didn't rub down, they pushed down when the distressed settler started shooting into their ranks and sent them off on a mad stampede.

In addition, their skins were valuable and they were slaughtered by the thousands for their hides. Travellers told of sheds jammed with buffalo hides at John Harris' trading house at Harris Ferry—later called Louisburg and now Harrisburg—where they had been sent from upriver by raft. The settlers relished buffalo calf meat. Big herds would gather in Middle Creek and Penns Valley in autumn to migrate south and they were killed recklessly then for their hides. When they returned in the spring, the calves were killed for food. A dumb, rather trusting animal, the buffalo never was smart enough to seek new territory and hung on until it became extinct.

There were regular buffalo hunters who made it a business killing for the hide and tongue and what meat they needed from day to day. The rest of the carcass was left to feed the wolves or rot and dry on the ground. Buffalo and deer were later shot from trains just for the fun of seeing them fall.

The extinction of any species such as the Pennsylvania Buffalo is a pity, but it is difficult to see how any could have survived in a wild state, even if they had been protected once the pioneers started settling the valleys and cutting down the woods. The buffalo had to go.

In the same way, the equally extinct wild passenger pigeon would be a terrible nuisance to agriculture if present today in its once vast numbers. One old record tells of them clouding the sky, more numerous than the stars in the heavens. Some species are incompatible with what we call advances in civilization. This is another side to conservation which is seldom mentioned.

The buffalo was one of the first species to fall, principally because it got in the road of the pioneers. However, other animals and birds were to go the same way because another thing became an influence on early Pennsylvania's wildlife. The

market hunter took over the job of killing. They supplied the Metropolitan centers such as Philadelphia and New York with game and the people of the cities were indifferent to where it came from or what its sale meant to the state's supply of wildlife.

Venison and other game actually was served on the free lunch counters of the better saloons in Pittsburgh and Philadelphia. The water fowl were harried on the way south in the fall and on their way back in the spring with swivel and battery guns in order to supply the market demand.

Box cars loaded with barrels packed solid with nothing but the smoked breast of pinnated grouse were sent in to the markets of the city. Quail, grouse, wild turkeys, rabbits, deer, bear and squirrels were all shot and trapped for sale in the market and many times they were used for buying votes during political campaigns.

Song and insectivorious birds were killed and their plummage sold to the milliners to beautify the hats of the ladies.

It became the fashion to have stuffed animals and birds in the homes and the taxidermists did a thriving business.

The supply of game became extremely scarce, for abundant as it was, it could not stand the onslaught. Thinking sportsmen and citizens became alarmed at conditions and began to fight for protection of the sadly depleted remnants.

It is almost impossible to believe that in the two centuries from 1696 to 1896, man transformed Pennsylvania from a hunter's paradise into a gunned-out state. However, the records prove conclusively that in that short period of time the bison and the passenger pigeon were exterminated. Extinct, or near extinction were the elk, the white tailed deer, the beaver, the fisher and marten, the wolverine, flickers and upland plover, the black bear and the wild turkey. Also, threatened with extinction near the end of the last century were the migratory water-



fowl, the ruffed grouse, fox squirrel, in fact, nearly all game.

It would be difficult to point to any one of the several causes of this condition, but in all probability the two greatest contributing factors in those two centuries of slaughter were market hunting and spring shooting. But they were not the only determining elements—farming must also come in for its share of the blame.

The westward drive kept a constantly moving stream of pioneers slashing the timber, clearing fields and eliminating what had once been perfect cover for all kinds of game before the advent of the axe and plow.

In addition to killing all game needed for the table, the early settler also changed the game's habitat. Animals accustomed to living in the wilds retreated before the agriculturist. Woodchucks and crows which thrive near man increased. Wolves howled at night around lonely frontier farmhouses and panthers screamed in the woods. The settlers warred savagely on them, not because they were dangerous to human beings, but because these predators found it easier to kill sheep and other live stock than to live on wildlife.

The historic William Penn Charter of 1683 contributed its full share by setting forth these provisions: "I do—grant to the inhabitants of this Province and territories thereof, libertie to Fowle and Hunt upon the lands they hold and all other lands therein, not enclosed." Although Penn did not intend it as such, this was interpreted as permission to destroy anything and everything. In this same year the first Pennsylvania "Game Law" of which there is any record was established. It was a bounty offer of 10 and 15 shillings on male and female wolves.

With these two historic documents on the books, any method that put game on the table and furs on stretcher boards was considered legitimate at that time, when human survival on Pennsylvania's frontier often depended upon utilizing its wildlife.

Firearms were not too accurate in



that earliest period, so the settlers followed Indian methods using snares, deadfalls, pits, pens and other devices. "Ring hunting" aimed primarily at predators, brought about the destruction of other wildlife. In these circular hunts, entire communities participated much as they sometimes do now in fox hunting. The game was driven into an ever-narrowing circle by the beaters and then slaughtered.

Jacklighting was common then, too, because a deer will stand just as still in the glare from a pitch pine torch as in the beam of a modern flashlight. Dogs were used to chase bear and deer. Nets and bird lime snared birds en masse.

The part that wildlife played in the successful exploitation of the new country and its potential value to the early pioneer meant little to those busy harassed empire builders. To sit back today and view it objectively it is staggering in its enormity. From the first settlers until today, wildlife has touched and played its part in the life of the millions of people who have passed in parade. From the Pilgrims, who sought game for food through that first year and offered up the wild turkey for the first Thanksgiving feast there followed the pathfinders, settlers, farmers, lumber and construction workers, road builders, prospectors and even the railroad workers. Wildlife was their life saver, the mainstay against starvation.

Today, as then, game still provides tasty food for our table, but it also provides healthful sport and recreation to thousands of our Pennsylvania sportsmen.

Jersey Club Tackles Posted-Land Problem

New Jersey's Wartendyke Field and Stream Association of Bergen County, faced with the same problem confronting sportsmen all over America, refused to take a decision lying down, the Wildlife Management Institute reports. As a result, New Jersey sportsmen now can fish three miles of formerly closed trout streams and hunt five more square miles of formerly posted lands.

Acting in close cooperation with landowners, the New Jersey Division of Fish and Game, and other conservation organizations, the club members are striving to make the recently opened lands as productive of fish and game as possible. An intensive food and cover planting program already is in progress, a refuge system has been developed, and a stream improvement program has been initiated along Bear Brook Swamp. Numerous structures already have been installed along the stream, and plans have been drawn to rebuild a former summer cottage for use of junior members.

The importance of the work done by the Wartendyke Club is not alone in the acres of improved lands or miles of improved trout streams opened but in the basic fact that a local group, faced with the complete loss of free hunting and fishing land, did not lie back and bemoan the fact that the Fish and Game Department did not do the job for them. They have worked hard for the preservation of their own sport, and this is an example that all sportsmen could follow for the production of recreational lands in their own home towns.



Outdoor Kids

By Hal H. Harrison

BILLY and Jane were no different from most other folks when they found their first praying mantis. They thought they had discovered something new and rare to science. Surely anything as strange and fierce-looking as this creature would be little known to most people.

"It looks just like one of those big dinosaurs in the museum," Jane observed when she was told that it was a praying mantis and that despite its terrifying appearance it was perfectly harmless to humans.

"Yes, and it's easy to see where it gets its name," said Billy as he peered down at the creature sitting on the top of a marigold, its forelegs folded across its breast in an attitude of prayer.

If the mantis seems to be praying, it certainly is fooling all those who think so, for those fore-legs are folded in that position in order to commit a quick murder. From a reared-up posture, the insect is better able to grab its prey and eat it.

The front legs act like two spiny scythes in scooping up meals of grasshoppers, crickets, wasps, flies and any other luckless brethern of the insect world that get close to this garden dinosaur. Slow-moving when stalking its prey, the mantis acts like a flash of lightning when the moment to attack is at hand. Once a luckless bug has been enfolded in the killer's arms, its life is quickly ended by the sharp jaws of its captor.

When Billy and Jane learned that their new discovery was harmless to them and even beneficial to gardners who seek to rid their yards of harmful insects, they decided to keep the mantis as a pet. But when they learned what a ravenous appetite it had and how much time was required to keep its appetite satisfied, they released it in their yard.

Although a hundrd or more tiny, miniature mantids hatch from egg masses in the spring, it is not until they are full grown in early fall that people usually begin to notice them. It is in September and October that newspapers and museums receive telephone calls or letters from people who are sure that they have found something rare.

And it is this time of year that life for the praying mantis is fast coming to an end. In a white fluid that it emits in a ribbon, like toothpaste from a tube, the female lays her eggs. This fluid is whipped into a frothy mass and encases the eggs that are laid into it. The liquid hardens and protects the eggs during the winter. The old mantids die when the first frosts strike, so that future generations spend the winter as eggs. No adults live through the winter not even the pets that are kept warm indoors.

From birth, the mantis has a terrific appetite and it starts as a baby to eat aphids and other small creatures. As it grows up, its demands grow also until it is capturing insects as large as itself.

The green and brown colors of the mantids as well as their stick-like appearance (unlike walking sticks, mantids have wings) serve well to camouflage them. Indeed, one mantis that lives in India has colored plates on its belly and when it rears up, these plates look like flowers.

The mantis that Billy and Jane found in Pennsylvania was a species that was introduced from Asia in 1896. In its native China, this mantid is carried by some people in a cage and is made to battle with others of its kind like a fighting cock. The Japanese use it to catch mosquitoes.

Many African natives think that the mantis can bring the dead to life. Another belief is that the mantid's outstretched arms point the way home to one who is lost. In our own southern states, many natives believe that the "tobacco juice" emitted by the mantis will kill a mule.

Read Gun Instructions

Gun manufacturers are urging purchasers of rifles and shotguns to read carefully the booklet or folder of instructions which goes with every firearm.

"These folders go along with every individual gun shipped from the factories," says Henry P. Davis, public relations manager, Remington Arms Company, Inc., "and contain concise information of great value, especially to the chap who is a newcomer to the sport of shooting. Full information concerning the assembling, disassembling, adjustment and care of each model is contained in the folder that accompanies it, along with a list of the component parts.

"If the new purchaser will read these instructions carefully and follow them faithfully his gun will provide him with many years of shooting pleasure."



Pennsylvania Dept. of Commerce Photo
A reminder of a bygone era, this covered bridge humps over a county creek.

ADAMS COUNTY

Home of Gettysburg and Apples—Rabbits and Ringnecks

Settled by Scotch-Irish about 1740. Named after John Adams, then President, in 1800. County Seat, Gettysburg, laid out by James Gettys in 1780.

Land Area: 526 square miles of which 160.7 are forest land and 365.3 non-forest land devoted mostly to agriculture. Forest land also includes 21,886 acres of State Forests. No State Game Lands in this county.

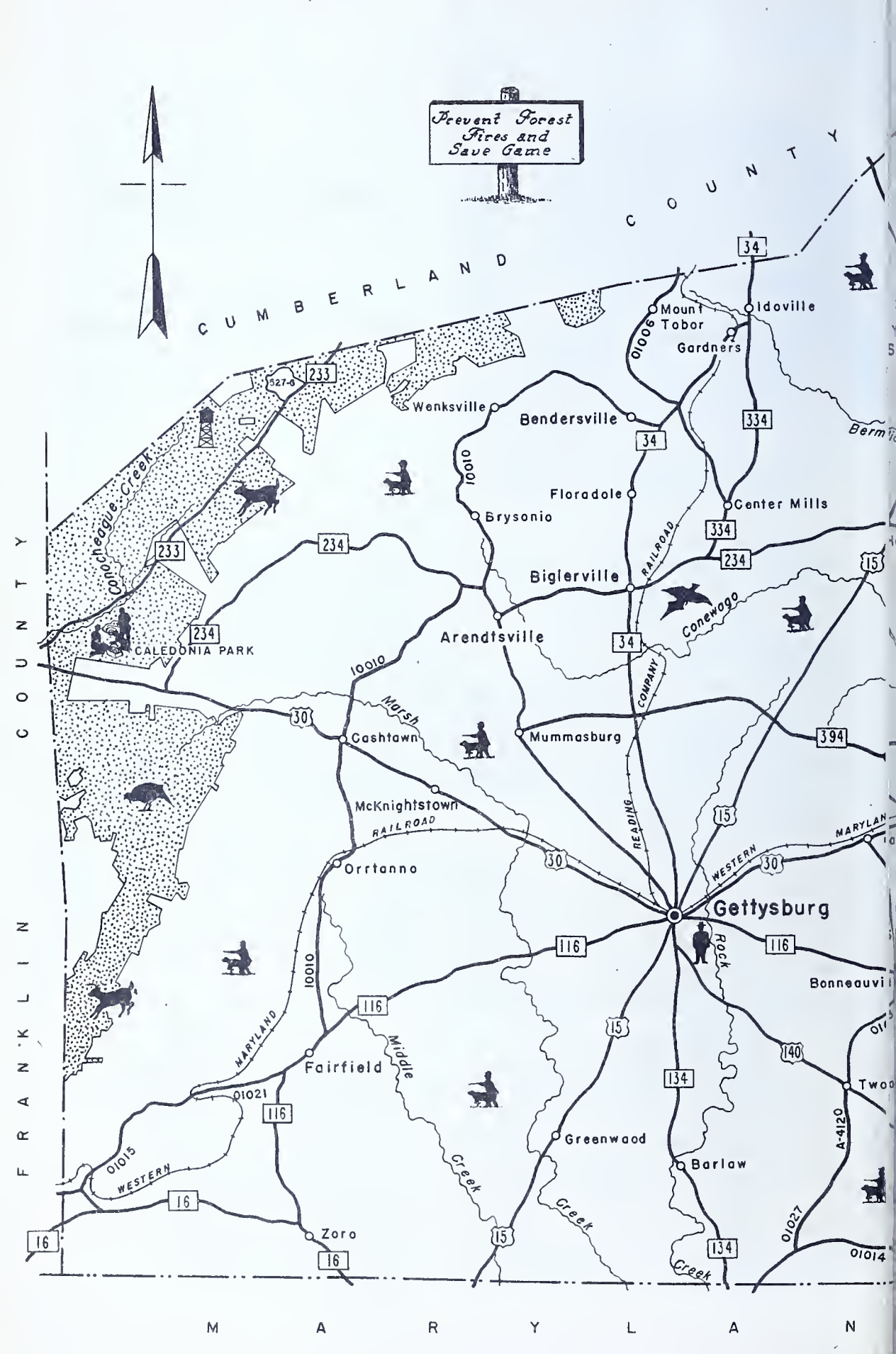
Transportation: There are 1199 miles of public roads including 548 in State Highways, 29 First Class and 625 Second Class Township Roads; the Reading and Western Maryland Railways; and a commercial airport at Gettysburg.

Topography: Mostly gentle rolling land rising in the southeast to an elevation of over 1000 feet on South Mountain. These wooded and hilly areas are largely occupied by portions of Caledonia State Park and the Michaux and Mont Alto State Forests. The mountains, which are not high, are inviting to hikers. The Appalachian Trail on South Mountain traverses the county.

Game Protectors: J. Russell Spahr, R. D. No. 2, Gardners, has jurisdiction over the northern half of the county including the townships of Franklin, Butler, Tyrone, Reading, Latimer, Huntingdon, Hamilton, Menallen and all municipalities located therein. Leo A. Bushman, 264 Baltimore St., Gettysburg, has jurisdiction over the southern townships including Mt. Pleasant, Mt. Joy, Strasan, Oxford, Germany, Union, Cumberland, Freedom, Highland, Hamilton Bah, Liberty, Conewago and Berwick.

Fish Warden: John S. Ogden, 242 E. College Avenue, York.

District Forester: Thomas Norris, Fayetteville.


Prevent Forest Fires and Save Game
CUMBERLAND COUNTY
FRANKLIN COUNTY
MARYLAND
Mount Tobor
Idoville
Gardners
Wenksville
Bendersville
Floradole
Brysonio
Center Mills
Biglerville
Arendtsville
CALEDONIA PARK
Cashtown
Mummasburg
McKnightstown
Orrtanno
Gettysburg
Fairfield
Zoro
Greenwood
Barlow
Bonneauvi
Two
Conocheague Creek
Marsh Creek
Middle Creek
Rock Creek
Conewago Creek
RAILROAD
COMPANY
READING
WESTERN MARYLAN
MARYLAND WESTERN
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527-G


C. Stanley Smith

The Ruffed Grouse

PENNSYLVANIA'S STATE BIRD

OF Pennsylvania's six resident game birds, the ruffed grouse is the most difficult to hunt, the most mysterious in its habits, and the most thrilling in its behavior. For decades men with gun in hand, heart in the autumnal highlands, and the swish of fall leaves in their faces have sought "old ruff", king of the game birds. That the grouse's status among birds is well recognized is best attested to by Act No. 234 of the General Assembly of Pennsylvania, approved June 22, 1931, naming the ruffed grouse as the official state bird of the Commonwealth.

In modern years sportsmen as well as those charged with the administration of our wildlife resources have found cause for concern over this great game bird. Ruffed grouse, with their mysterious population "ups and downs", coupled with failures to rear them economically in captivity, have long been one of the great unsolved riddles in wildlife management. They are known as a cyclic species, with the period between their "highs" or "lows" averaging seven to nine years.

Yet, despite heavy hunting, periodic scarcity, and mysterious ways, grouse go on. They have been around this world of ours for more than 25,000 years and they give every indication of being with us in the years ahead.

A Symphony in Brown

That the ruffed grouse is a beautiful bird cannot be denied. While he may lack the brilliance and glamour of our more exotic species, his coloration is entirely natural, matching the fall woods in which he is most often seen. About the size of a bantam hen, the grouse is a symphony of rich browns, grays, and blacks. Birds vary from 15 to 19 inches in length. They have an average wingspread of about 23 inches, a broad fan-shaped tail, and weigh from 16 to 28 ounces. Unlike most wild creatures, the male and female grouse look almost alike. Even grouse, themselves, have trouble recognizing cocks from hens in the wild. In the hand it is possible, although not easy, to distinguish the two sexes, the males having a more prominent ruff, or "neck collar", a continuous black band across the end of the tail, and longer tail feathers. The female usually has a less pronounced ruff, her tail band is always broken with gray, and her coloration is generally more subdued. All grouse exhibit a wide variation in basic color, from a rich, reddish brown, called the "red phase", to a light gray, called the "gray phase".

Woodland Drums and Crazy Seasons

One of the surest signs of spring in the outdoors is a muffled drumming, sometimes likened to the distant sound of a gasoline engine or tractor. While this drumming, the most famous sound produced by grouse, may be heard during any month of the year, in spring the hollow booming sound echoes throughout grouse land with frequent regularity. It heralds the start of life anew in Pennsylvania woodlands.

The drumming of a ruffed grouse cock is believed to be his declaration of male superiority. It is an invitation to the female, a challenge to other males. The noise represents the concussion of the air filling in a vacuum created by the powerful forward, upward, and somewhat inward stroke of the wing followed by its instantaneous reversal of motion.

In Pennsylvania the drumming season begins in late March and reaches its peak during late April or May. Surprisingly enough grouse must "learn to drum". Although they are born with the instinctive motions of the wings, they must practice before becoming proficient at producing the actual sound.

Grouse are most apt to drum early in the morning or at dusk. They have been seen drumming for several hours at three to five minute intervals. For a bandstand the drummer usually mounts a fallen log but sometimes uses boulders, a small mound on the forest floor, or even a bunch of moss. They usually establish more than one drumming log or site.

The courtship of the ruffed grouse is rather complicated. The drumming is merely a preliminary phase. There follows a strutting phase, in which there is much hissing and head shaking, as soon as other grouse have responded to drummed invitations. The second phase of the mating cycle is more gentle, the male seemingly abandoning all interest in his territorial claims and putting on a "show". He is subdued, sits still, or slowly follows his grouse "girl friend" about, uttering soft calls, twitching

his head and generally gives the impression that he is somewhat in a trance. It is in this phase that mating occurs. Finally, there may be a sudden transition to a fighting phase in which he attacks any and all intruders, driving them away.

Unlike some birds, the male grouse takes no interest in nest building or egg incubation. The hen usually starts construction of the nest by mid-April. It is a very crude affair, little more than a cup-shaped depression in the leaves on the forest floor. The nest is lined with the materials at hand, usually leaves of hardwood trees, and measures about six inches in diameter. The most frequent location is at the base of a tree or stump. The hen takes about 17 days to lay an average clutch of 11 eggs. She does not appear to deliberately cover her eggs when she leaves the nest although leaves are sometimes found over the eggs, caused no doubt by her actions when she flushes from the nest. Grouse are noted for their habit of sitting tight and, when forced from the nest or young, for their amazing attempt to lure the intruder away by faking injury. Incubation requires about 24 days. Female grouse as a rule have but one brood a year.

The young chicks leave the nest within a few hours after hatching, never to return. Young grouse are famous for their ability to "vanish before one's eyes". Contrary to popular belief, however, they do not grasp a leaf in their feet and roll over. They merely squat as low as possible and "freeze". Nature provides them with perfect camouflage, their color closely matching that of the forest floor. They feed mainly on insects during the first few weeks and can fly well by July.

As autumn approaches and the leaves begin to fall, grouse suddenly go "crazy". They seem to fly without direction, crashing into trees, smashing against backwoods barns and other buildings, breaking plate glass windows, and, in general, performing some amazing and often fatal aerial acrobatics. No one has so far discovered the exact reason for this "crazy" flight, but recent research indicates it represents the breaking up of the family groups. Young birds suddenly and somewhat carelessly seem to get the urge during October to strike out on their own, to find their own way in the wild world. Often they quickly reach "dead end" in the shape of a tree, building, or window.

With November comes a grouse's most crucial test. Pennsylvania's army of grouse hunters seek "old ruff" with a zeal and enthusiasm seldom found in other outdoor



sports. But despite modern shotguns and high power ammunition, the grouse is a worthy opponent. He seems to have radar in his brain, jet propulsion in his wings, and superior courage in his heart. Many a grouse hunter has found after the flush that he can't see grouse for the trees. Ruffed grouse have no peer when it comes to outflying a load of Number Six and outwitting even the best of hunters.

When the cold winds of winter begin to whisper and whine, when the snows pile deep in ravine and glen, grouse head for the evergreen thickets and dense stands of scrub oak. Here they find protection against the weather. And if the snow is deep enough, the birds spend a great deal of their time buried beneath its surface. Instead of nesting in trees on cold nights, they will dive into the snow, there to find security, warmth and safety. By the time the first snowflakes filter into the December woods, grouse have grown snowshoes—peculiar comblike processes on both sides of their toes which enable them to run over the slightest snow crust.

When the warm, sunny days of spring return once more, the birds return to the hardwood forests, the roll of nature's drummer can be heard echoing from Pennsylvania woodlands, and broods of young grouse will once more offer hope for continuing the finest in outdoor sport.

Aspen and Apple, Berries and Buds

The ruffed grouse could not be rated highly as a gourmet. He will eat most anything and everything grown in the wild. Primarily a vegetarian, his diet includes over 344 species of plants. Animal food, mainly insects, is taken only during the first few weeks of his life. Among the grouse's favorite foods, however, may be found aspen buds, acorns, oak buds, beechnuts, cherry buds, blueberry and huckleberry buds and twigs, birch buds, laurel buds and leaves, teaberry leaves and berries, fern tips, aster leaves, sumac, partridge berries, and hawthorn haws.

Plow, Cow and Axe

Only ten factors control grouse abundance. However, like flying to the moon, it is easier to talk about them than it is to make them all work to produce constant high populations of birds.

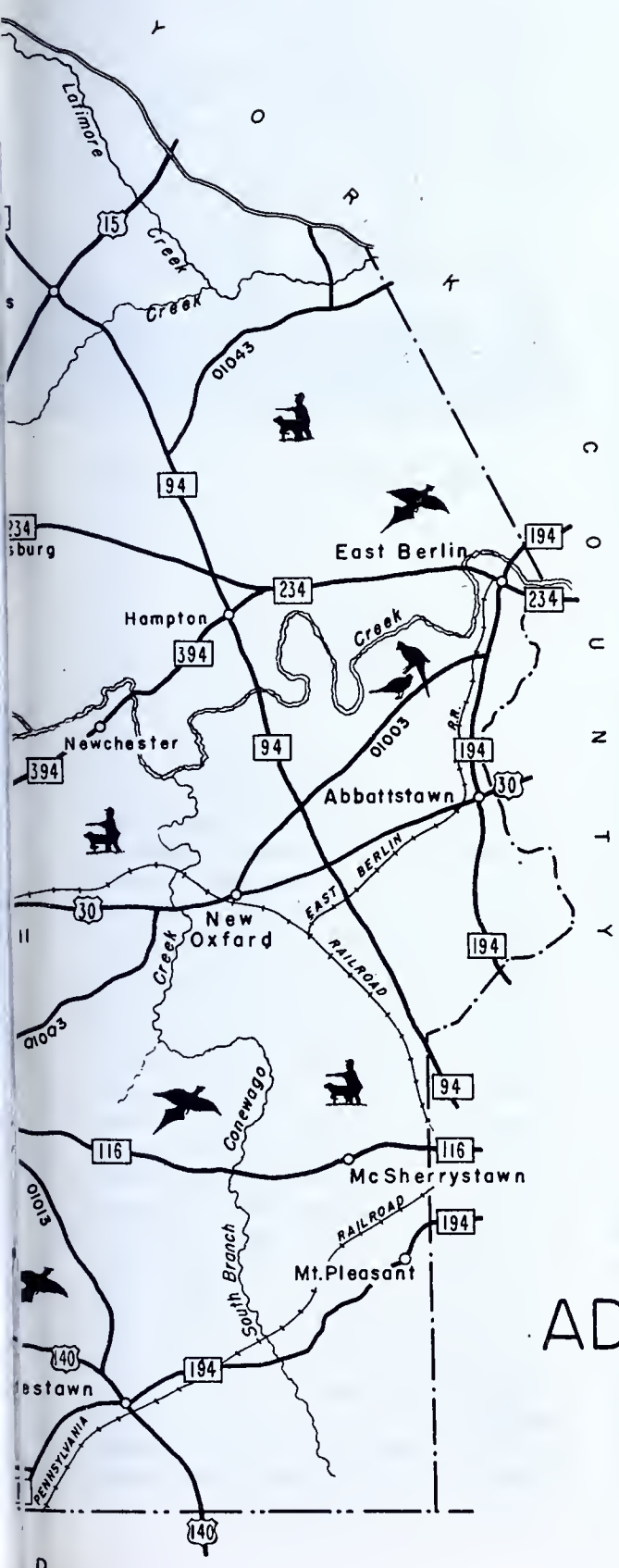
Three of these factors—*physiology, reproductive capacity,* and *general habits*—are but little subject to man's control. Yet all three are adversely affected by insufficient *food* and *cover* which man, within limits, can control. *Weather,* another factor, is something we can't do much about, despite dry ice and windbreaks. *Disease,* surprisingly enough, is of little importance except when grouse are over-abundant. Then it may tend to lay its black hand on a sizeable part of the grouse population.

Predation, the seventh factor, is more serious. Grouse are subject to predation at all times and up to 40 per cent of all grouse may be lost before they even leave the egg, chiefly to foxes and weasels. About half of the young chicks that do hatch are lost during the summer, mainly to Cooper's and sharp-shinned hawks. Finally, half of the adult birds may be killed, primarily by great horned owls and foxes, during the winter. None of the grouse predators, however, feed exclusively on these game birds and their effect depends largely on the number of "buffer" species available as well as on the number of grouse concentrated on any given area.

Artificial propagation, unfortunately, cannot yet be considered of major importance as a factor of abundance. Ruffed grouse, contrary to popular belief, can be raised artificially, but the cost is prohibitive. Grouse in captivity produce only about 20 eggs a year, losses in chicks may run as high as 50 per cent, and captive grouse are highly subject to disease and loss of wildness.

Most important, however, are *man's activities* on the landscape. It has been said that man—with his plow, cow, and axe—actually determines the size of the grouse crop. The farmer and the lumberman, of all men, are the keys to grouse abundance for they either create and control good game habitat, or destroy it. Clean farming, heavy grazing of woodlands, uncontrolled burning, and too much or too little lumbering—all are bad for grouse. But when selective cutting of woodlots is practiced, cattle are fenced out of the woods, small blocks of trees are created, small openings are cut within the woods, small blocks of conifers are planted in hardwood stands and wide borders between blocks of trees are created, the grouse will continue to be abundant.

Thus, with proper coordination and cooperation between landowner, lumberman, sportsman, and Game Commission, the ruffed grouse can remain a vital part of the Pennsylvania scene and retain his title "king of the game birds". Pennsylvanians in all walks of life can continue to thrill over the spring drumming of "old ruff", enjoy the sight of nature's "symphony in brown", and receive the contentment, joy, and peace of mind that grouse and grouse hunting can afford. Ruffed grouse are great birds—let's do everything within our power to keep them with us always!



— KEY —

- ◉ — County Seat.
- — Farm Game Project. (Open to hunting)
- — State Forest Fire Observation Tower.
- — Game Protector's Headquarters.
- — Game Propagation Area. (Closed to Hunting)
- — Deer Hunting.
- — Wild Turkey Hunting.
- — Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- — Railroad.
- — Stream.
- — State Forest Land.
- 527-G — Primary State Game Refuge on State Forest Land.
- — State Park.
- 116 — Pennsylvania Route Number.
- 15 — U. S. Highway Route Number.
- a1aa3 — Legislative Route Number.

PENNSYLVANIA
GAME COMMISSION

ADAMS COUNTY
PENNSYLVANIA

0 1 2
Scale in Miles



Pennsylvania Dept. of Commerce Photo
The Pennsylvania Monument, Gettysburg.

Historic: The famous point of historical interest is the Gettysburg Battlefield. It represents the turning point of the Civil War and marks the field of honor where thousands died in the conflict between the North and South. It is thoroughly marked with monuments including the National Cemetery, the Eternal Shrine and the Pennsylvania Monument. It was at Gettysburg that Abraham Lincoln, in dedicating the National Cemetery on November 19, 1863, delivered his immortal Gettysburg address. Other historical sites include: Cary House; Jennie Wade House; Dobbin House, 1776, second oldest classical school in the region west of the Susquehanna River; Oldest Lutheran College in the United States; Statue of Mary Jemison, famous white woman captured by Indians; Conewago Chapel, oldest Catholic Church in Pennsylvania west of the Susquehanna River.

Industry: Principal industries include canning and shoemaking.

Agriculture: Apples, cherries, hay, wheat, peaches, livestock. County ranks first in apple production, second in peaches and cherries.

Recreation—Hunting: Deer are the only big game to be found but there is a wide diversity of small game including wild turkeys, grouse, ringneck pheasants, rabbits, and squirrels.

Recreation—Fishing: Fishable waters (name of stream, fish stocked, location, and length of stocked waters) include: Little Antietam, East Branch, Brook Trout, Waynesboro, Rt. 16, 3 miles; Carbaugh Run, Brook Trout, Caledonia State Park, Rt. 30, 3 miles; Chambersburg Reservoir, Rainbow Trout, Caledonia State Park, Rt. 30, 22 acres; Conewago Creek, Brown Trout, Arndtsville, Rt. 234, 5 miles; Conococheague Creek, Brown Trout, Caledonia State Park, Rt. 30, 2 miles; Hartman Dam, Marsh Creek. Rainbow Trout, Cashtown, Rt. 30, 3 acres; Little Marsh Creek, Brook Trout, Orrtanna, Rt. 234, 2 miles; Middle Creek, Brown Trout, Fairfield, Rt. 116, 6 miles; Toms Run, Brook Trout, Fairfield, Rt. 116, 4 miles; Bermudian Creek, Black Bass, York Springs, Rt. 15, 5 miles; Conewago Creek, Black Bass, East Berlin, Rt. 234, 12 miles; Conewago, South Branch, Black Bass, Cashtown, Rt. 30, 11 miles.

Outdoor Reveries



Bog Trotting

By John Day

CUNNING, clever engineers had surveyed the possibilities of that distant swamp long before we came ploughing through the sphagnum to see what we could see. Near the hillside clumps of quaking aspen they had established a flood control project without benefit of government subsidy. Scorning drawing boards and bench-mark elevations, they threw a log and mud dam across at the precise spot to push the water back through the flatlands toward those "popple" aspen groves.

We had blundered our way in and out of several sample sections of the swamp, working gradually along one side of the tamarack thickets, when we came suddenly into the clearing developed by those bog engineers. Aspen stumps cut off about a foot above the ground, bore mute evidence of extensive timber operations. Well-defined drag trails led further up the hillside, funneling into a yard-wide canal dug just as far as the water level would carry.

We followed up one of these trails and soon came to fresh cuttings, one of which was a wild apple lopped off three feet above the ground. Three-inch chips were scattered about, but all trunks and branches had been cut into lengths, dragged down those open trails to the canal, and floated out to the stock piles in the main pond. The canal served as Summer resort to a host of small frogs and no corps of engineers could have kept it in better condition. The banks were freshly plastered as though the dredging crews had just passed through.

Just above the canal I counted 16 cut-off stumps in one clearing. Some of them were a good six inches through. The sun was high and the day humid and hot when we came by, and the swamp engineers were taking their ease in cool retreats somewhere beneath the banks. We did not even hear one of the resounding slaps by which the whole area is alerted when danger threatens.

It's well worth the rough going just to see the handiwork of these little engineers and to marvel at the instinct which directs the beavers' effort in constructing their hidden waterway retreats. Self-styled conservationists are just now raising a great hullabaloo about farm ponds. If they would curb the greed of poachers by making unlawful the possession of beaver pelts at any time,

and give these industrious little workers a fair chance, real ponds of great value to all wild life would soon appear along every suitable spring-fed brook in the countryside.

We crossed the site of an earlier dam, abandoned after the supply of "popple" had run out, and cut back toward the heart of the swamp. Large patches of the stout-stemmed marsh marigold were spotted about in the swale beneath the trees. Country folk sometimes boil the young plants as "greens", reducing the crisp, glossy heart-shaped leaves to a slimy mass in a pot on the back of the stove.

Finally we reached the open swamp, after skirting cautiously about a single specimen of the dangerous poison sumac, with its beautiful red-stemmed leaves. Here was a flat area of several acres, matted over by a hip-high tangle of huckleberry and the fragrant Labrador tea. An occasional high bush blueberry held up the procession while we stopped and munched a handful of the fat delicious fruits.

In the open spots cranberries sprawled all over the sphagnum. A few of the fruits were already turning red. As we started a wide circling traverse of those lonely barrens, I suddenly came upon one of the rare pitcher plants, growing in solitary splendor, with one faded flower stalk still standing guard over those seductive "pitchers". For many years I had hunted this plant through mile after mile of swamp country. Here I soon found it to be one of the commonest residents of the marsh.

Hidden deep in the heart of this secluded bog is a dark, forbidding pool, locally reputed to be bottomless. The usual legends about horses disappearing are current in the countryside and I was hoping to see this awesome spot. After much casting about in the heath we came at last to this secret place and looked out across a most sinister black-water lake.

Standing several careful feet back from the edge, we set the bog to quaking by jumping heavily in the sphagnum underfoot. Soon the whole joint was jumping, as the retinue of phantom spectres danced in memory of other ill-advised bog trotters who had passed that way.

One trip which is a "must" in the countryman's late-Summer itinerary is the annual trek to the remote fence rows where the climbing bittersweet has hung its flaming orange pendants. Soon the bite of the killing frost will cut down all color in the flower beds. Then the bittersweet comes in from the back porch —where it has been hanging upside down to dry and open properly— to brighten nooks and corners until the gay blossoms of another Spring push it aside.

Wanton-careless market hunters have played havoc with the bittersweet vines in my bailiwick. In the area of one whole county I know of but three or four sizeable stations



John H. Day

which set fruit regularly. Careful cutting does not harm the vines, which seem to do better when pruned occasionally.

My favorite patch lies behind a fearsome bastion of poison ivy, far back in the hills along a lonesome country lane. I drove in from the valley road and threaded the narrow one-lane defile that winds up and across the approaches to this secluded spot. A few years ago this upland country was an immense berry patch, where the fat, luscious blackberries hung in dead-ripe clusters.

Since then the ubiquitous poison ivy has moved in and conspired with wild cherry and sumac to crowd out the berry canes. The ivy is everywhere—in the fencerows and all through the abandoned old fields which top those forsaken hills. Perhaps it is this toxic warder which has dismayed the motley throng and kept that isolated patch for my special enjoyment year after year.

Bittersweet is easily transplanted. Backyard farmers with an eye for warm color and an available ten-foot section of fencerow would do well to bring in a few strong roots and grow their own Winter bouquets. I started three shoots along the fence edging our home acres. That Winter the snow lay deep for several weeks. The rabbits were hard put for forage and they ate my bittersweet clear down to the ground.

There's one thing to remember about bittersweet. It won't set fruit unless plants of both sexes are established together, to allow for proper pollination. Many a vine has led an unfruitful bachelor existence because the grower was ignorant of this essential fact.

Apparently many of the birds have already felt the pull of September. As the harvest moon nears I note the robins congregating in the open woodlands. The big nighthawks paid us their annual visit the other evening, staging a spectacular sky show above the valley as they stoked up on part of our crop of insects. Most of the "bug-eaters" move out early, leaving the field to the birds who can get along on weed seeds and a tithe or two from the farmer's fence row.

September brings a sort of "seventh inning stretch" to the countryman who watches the parade of the months down the year. Summer wanes, holding on grimly to the last. Then suddenly the September sun crosses the equinox and Autumn is upon us, moving in with its riot of colors that will last through October and into November. The countryman watches the goldenrod flare into yellow flame across the bottomlands and knows that he has again lived through another Summer.

Things You May Not Know

The pupils of the eyes of rattlesnakes and other pit vipers, which are mostly nocturnal hunters, are spherical at night, but in the daytime contract to a vertical slit thus cutting out bright light.

* * *

The African elephant invariably sleeps standing up. The Indian elephant lies down.

The main difference in the physical structure of the dog and the wolf is in the eye. The pupil of the dog's eye is round, that of the wolf is oblique.

* * *

When a female mole is caught in a trap, the male's sorrow at losing his mate is often so great that he starves to death.



The Philosophy of Hunting

By N. R. Casillo

A MODERN outdoorsman hunts not only for the thrill of the kill, but also for the sport of the chase and the adjuncts with which it is envolved. The glow of satisfaction suffusing the hunter when he bags a cottontail or any other game for that matter, is caused by the momentary thrill of having outwitted a more or less wily denizen of the wild as well as for the fact that he has satisfied an urge that goes back through the ages.

If it so happens that he shot the bunny while it was sitting he still gets the thrill induced by the approval of the feat by his fellows, that is, providing they do not know that he shot it while it was at a disadvantage. Who hasn't seen the successful hunter who parades through town with his deer draped over a fender? And didn't you get a wee thrill when looks of approbation followed your eight-pointer as you passed through towns en route home?

Queer how a "ne'er do well," and/or poor family provider will beam with pride when he plunks down on the kitchen table a bag of game for the little woman to clean and cook. He is only manifesting the same behavior experienced by scores of his primitive forebears. The successful hunter has always been acclaimed by both his family and his fellows. The chap who consistently brought home the bacon was the big medicine of his clan or tribe. Even today, when an Eskimo girl considers marriage, it is said that she gives the most encouragement to the suitor who is the ablest hunter, regardless of whether she actually loves him more than another. Likewise, a man becomes a leader after demonstrating to his fellows that he is a superior hunter. These customs are practiced by many other modern primitive peoples as well.

The popularity of Daniel Boone, Kit Carson, Buffalo Bill and other mighty huntsmen with their contemporaries as well as with the youngsters of today is because they could fill the old game bag and keep the family larder comfortably stocked. Those old timers differed not at all from we moderns who boast about



the contents of our deep freezers. The woodcraftsmanship and other adjuncts that made those frontiersmen such successful hunters were lost in the brilliant glare of their ability to bag game. "Pshaw," you may say, "anybody could bag game in those days." Yet, the fact remains that some of them excelled in their craft.

The profligate slaughter of bison by Buffalo Bill was the order of the day. If he foresaw the complete annihilation of those vast herds he gave it no more thought than does the average hunter to the present-day deer problem. We keep ducking the issue and trust that the problem will somehow be solved in the future.

Some lament the passing of so many wild species. Certainly it is lamentable, but that wild orgy of thoughtless killing of the past has been largely responsible for curbing our instincts and insuring game for tomorrow. Would we know how to minister to the problems of the future if it were not for the mistakes of the past?

The vast majority of hunters are not the ghoulish killers so often imagined by those who have a different slant on the disposition of our game and fish. This can best be illustrated by relating a couple of episodes wherein the reactions of the hunters were peculiarly contradictory.

As a boy I was befriended by a taciturn local hunter and trapper. Bill Searle was a top rate outdoorsman and certainly looked the part. He had the narrow unwavering eyes of the frontiersman, a full iron-gray mustache and brows to match. His garb was as picturesque as his unregulated life.

Bill was a duly appointed game and fish warden of a sort. He was never known to make an arrest, rather he preferred to point out the mistakes and foibles of the law breaker. He knew the futility of coping with a situation where breaking game and fish laws was the order of the day. He was a pioneer in conservation education.

When my native state issued its first hunting license I had barely reached my teens. Armed with one of the official looking certificates as well as with a single barrel twelve-gauge and plenty of black powder shells, Louie Aldrich and I hied to the river.

At a bend in the stream just below one of our three swimming holes, we spied a small flock of ducks.

"River ducks!" excitedly hissed Louie in my ear. Then, completely unabashed and uninhibited he added, "If you get 'un I'll kiss ya."

In the excitement of the moment the enormity of his proposal was completely lost. Anyway, I glanced at his homely mug and decided to chance it. Accordingly, we began a long and painful stalk.

Ignoring Louie's several impatient and sanguine demands to "Let 'em have it," until we were barely fifty feet from our unsuspicious quarry, I glanced at my companion as we lay prone in several inches of cold marsh water, and whispered, "Now, watch this."

Upon jumping to my feet with my gun in readiness, bedlam broke loose. The ducks exploded from the water with wildly flailing wings accompanied by a clamor of shrill alarms sounding something like *oo-eek, oo-eek!* I aimed in the general direction of the fleeing fowl and pulled the trigger even as Louie let out a blood curdling yell of "Let 'em have it!"

After the roaring blast of the coal burner I heard a single splash. A great cloud of acrid smoke blotted out the scene before us. I dropped the gun and followed Louie to the river's edge as he repeatedly yelled, "You got 'un'. You got 'un!"

The clearing smoke disclosed a single duck lying prone in the shallow

water across the stream. Disregarding the shoulder-deep water on our side of the river Louie plunged in and retrieved the lone bird.

After the momentary elation had subsided we laid the duck down on the closely cropped pasture grass and smoothed its beautiful plumage.

"Aint it pretty," breathed my companion.

"Yeah, it is," I agreed.

"It was too pretty to kill," faltered Louis.

"Huh?" A quick look at my pal's face confirmed what my ears had perceived. Twin rivulets of tears streamed down over his cheeks. The big lug was crying like a baby.

"Aw, come on," I snapped with forced ferocity. "Let's head for home." With that I picked up my game and made for the road at the edge of the pasture.

There was a complete change in our feelings and attitudes when we reached the main street of town. Many an admiring look was thrown in our direction. I calculated that Louie would burst with pride as we strode along, the duck carelessly draped over my left shoulder. On the other reposed my gun with muzzle pointing forward and downward just as I had seen them carried by the town sports. The feeling that suffused me even surpassed the triumph that was mine when I made the winning touchdown for the Fifth Grade Tigers.

Louie suddenly quickened his pace and swelled even more. "Here comes Bill Searle," he gurgled tremulously. What a moment!

When the great man was still ten feet away he greeted, "Well, boys, I see you've been huntin'."

"Yeah, we have," I replied as evenly and as calmly as circumstances permitted.

"Was that the only duck you saw?" Asked Bill as two or three passers-by stopped to admire the lone fowl.

Louie couldn't restrain himself. "There were lots of 'em—at least a dozen," he bubbled.

The warden's face was expressionless as he slowly intoned, "Good, good," With that he strode off down the street.

By that time there were at least six men gathered about examining the duck and asking how we got it. Our satisfaction would have been complete had Bill Searle evinced more interest in what so many others considered an extraordinary exploit. I said as much to my companion.

"Shucks, he's not one to make a lot of fuss over a lone duck," philosophied Louie as we parted at Spring Street.

Next day while prospecting Beaver Brook for future muskrat sets we ran smack into Bill. As on a number of other occasions he just seemed to appear from nowhere.

"Lots of mus'rat signs, aint there?"

We eagerly assented. Bill leaned against the high bank and crossed his long legs. As was his wont, he appeared relaxed and unhurried. We sat on a log facing him.

"That duck you got yesterday," he drawled and then paused to stroke his pipe with a gnarled forefinger. Our faces beamed in anticipation at what he was going to say about our "extraordinary" feat. At last he continued, "I opine you boys didn't know it was a wood duck."

Puzzled expressions must have crossed our faces because Bill quickly went on, "Wood ducks are pertected. It's agin' the law to shoot 'em."

We were speechless as the shaggy browed eyes settled upon us, the quick change in the man's demeanor suddenly making him seem like a total stranger. Our idol tumbled or would have had I not detected a ghost of a twinkle playing about the corners of his arresting eyes. Even so I didn't hold out much hope. A quick

glance at my companion's face showed that he too was stunned at the enormity of the misdemeanor we had committed. We had scaled the heights and now we groveled in the depths.

Bill himself broke the awful silence by saying, "If you boys will come out to my place on this coming Saturday, I'll take you fer a duck hunt." And long before we could trust ourselves to believe our ears he had disappeared around a bend upstream.

I have often thought of that episode. Bill's action may have been contrary to the legal game code, but it was most effective in its results. He seemed to have the knack to do the thing that best fitted a situation. In other words, he understood the delicate machinery which makes us what we are. What is more, neither did he minimize nor condemn us for the violation. I wonder if my enthusiasm for the out-of-doors would have been less intense had he taken more drastic action.

Bill was a meat hunter, but he was never known to kill an animal needlessly. Indeed, he was often chided for abiding by the legal bag limit which had only recently been fixed. He was not one to freely distribute game to his friends and neighbors to satisfy his ego. Occasionally, he would leave a choice piece of game with an ailing friend or a rheumatic and helpless follower of the hunting trails.

Some who thought themselves close to Bill were firmly convinced that he actually expressed his regrets to the animal or bird that he was about to bring down. Indeed, one chap fervently declared that the huntsman actually uttered a brief prayer when he leveled his sights on the sixteen point white-tail buck that some of the older hunters still talk about.

On one of the rare occasions when Bill really let himself go, I chanced to be sitting in on a session when he declared that the hunting instinct is closely akin to the one that prompts any red-blooded man or boy to befriend a homeless dog or take care of a helpless fledgling that has fallen out of its nest and become hopelessly lost. At the time I thought the comparison wholly incongruous, but later observations have proved to my utter satisfaction that a successful hunter is invariably a sportsman, and does more to allay the suffering and distress of wildlife than does the sentimentalist who may critcize the sportsman for his killings.

Several years after the duck incident I accompanied Bill on a deer hunt. It was the last day of the season and we were wearily trudging toward the waiting team that would take us the remaining eight or ten miles back to town. We were empty-handed, neither of us having sighted so much as a single animal. The ground was bare of snow and Bill's most potent craft prove unavailing.

We were almost within sight of the blanketed horses at the end of a long tote road when Bill stopped dead in his tracks. I needed no directions to follow suit. As we stood there like twin statues, a deer stepped cautiously from the trailside growths and stood stock still in the middle of the road. And what a deer! It was a fine eight point buck, a trophy that would thrill the most sophisticated hunter. In fact, as I scrutinized the magnificent antlers a wrenching thrill twisted its way up my back. The symmetrical antlers were of a peculiar off-white color and of a huskiness that would be difficult to match. Yes, sir, we were gazing at Tom, the famed white-antlered buck of Surry Mountain. What is more, he was scarcely fifty yards away, a perfect target even in the subdued light of the woodland.

Bill made no move as the animal gazed fixedly in our direction, attempting, no doubt, to wind us. It

held its position for what I thought was a full minute although now I'm sure that it could not have been more than a scant ten seconds.

Suddenly, Bill took a step toward the deer, the astonished animal giving a kind of an incredulous snort as it bounded into the heavy evergreens on the other side of the road.

Bill turned to me with a sort of a sheepish grin as I gazed back in wonderment.

"'Twas Tom," he said simply.

"I know," I came back, "but—."

He was quick to interrupt me. "These hills wouldn't be the same without him.

"But some one else is likely to get him," I remonstrated.

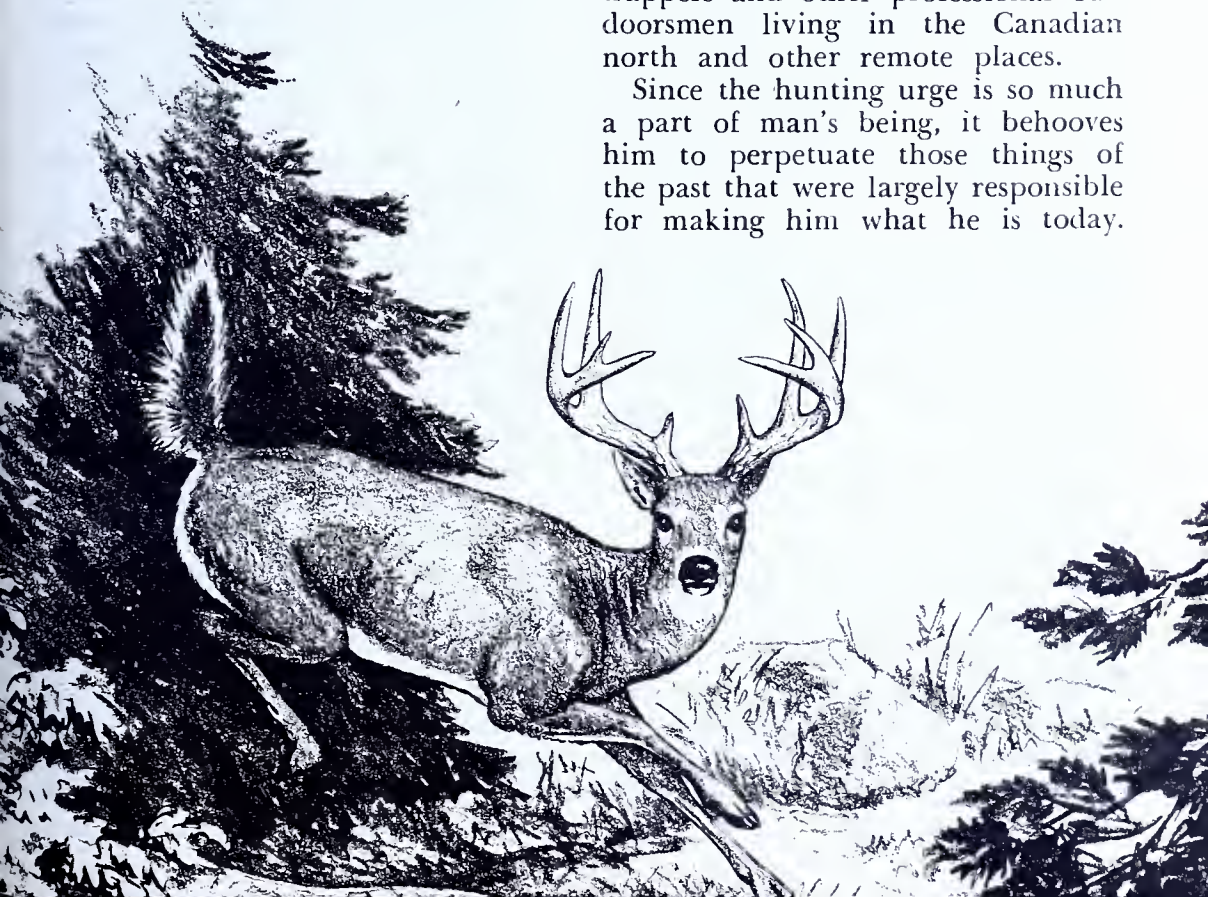
"It's their right," he said, turning slowly and once again heading for the team.

I had discovered yet another facet in the many angled life of Bill, the meat hunter, as some townspeople were wont to call him.

Summarily, it is rare indeed when an expert hunter turns out to be a poor sportsman. A good sportsman invariably favors his quarry and if possible strives for a clean kill. If the game outwits him he has the same respect for it that he has for a winning opponent in a game of golf or tennis. No true sportsman ever feels any contempt for the furred or feathered creature who has valiantly played the game and won.

The hunting instinct is almost as old as the one of self-preservation. Indeed, life itself often depended on man's success as a hunter. Along with certain other phases of wood lore it supplied the ecological mainstay of most prehistoric people. Even advanced people frequently resort to a hunting life as a temporary means of adjustment to a new environment. Some examples include the American frontiersmen, the Dutch Bores in the Transvaal, the Russian *promyshleniki* as well as trappers and other professional outdoorsmen living in the Canadian north and other remote places.

Since the hunting urge is so much a part of man's being, it behooves him to perpetuate those things of the past that were largely responsible for making him what he is today.





What the 1950 Antlerless Season Is to Accomplish

The Pennsylvania Game Commission has declared a two-day 1950 antlerless deer season after careful consideration of the complaints and views of all groups and individuals interested in the management of the herd. The Commission believes that this year's antlerless season will accomplish at least these results:

1. A reduced, better balanced and more vigorous herd.

2. The herd will be reduced to within the food capacity of the natural range, allowing depleted plant species on which they feed an opportunity to recover from over-browsing and giving game lands and forestry plantings an opportunity to develop.

3. By setting the dates for antlerless deer at the beginning of the season, needed relief from serious crop damage in the agricultural areas should result.

4. The danger to human life through collisions with deer on the highways will be lessened.

5. The 9 o'clock opening hour on the first day (November 27) will save lives and prevent accidents. Poor visibility, fast driving and itchy trigger fingers should be reduced to a minimum.

6. Other forms of wildlife will benefit through the saving of food and cover consumed in the past by an overpopulated herd.

7. Lessened browsing by deer will advance reforestation and soil conservation, through increased growth of plants and decreased loss of top soil by run-off water.

Food and Cover Program Exceeds Requirements Set by Legislature

A law passed by the 1949 General Assembly requires that $1.25 from each resident hunter's license fee be expended for certain specific purposes, including the improvement and maintenance of natural wildlife habitat on lands open to public hunting. Other uses of the ear-marked fund provided, among others: the purchase and maintenance of equipment for food and cover development, the purchase, planting, cultivating, and harvesting of game foods, the purchase and trapping of game, and the protection of Farm-Game cooperators' properties.

May 31st completed the Commission's first fiscal year since the ear-marking procedure was effected. On the basis of 800,000 resident hunting licenses being issued, the sum of $1,000,000 would be required to meet the legislators' mandate. Actually almost $1,200,000 was spent during the last fiscal year for these purposes. This amount exceeds by approximately 20% the requirements of the new law.

While the value of many game lands habitat improvements will not be too apparent now because growth and changes come about slowly in nature, there has been much of value done that any person will readily evaluate. The public may visit State Game Lands at any time and view the work that is being done there in the interest of wildlife.

Food and cover development work on State Game Lands in the Commission's last fiscal year included: the cutting of approximately 1200 acres of timber; the improvement of wildlife habitat through release cuttings, thinnings, pruning of fruit trees, and leveling inferior forest growths with bulldozers; the establishment of 1272 food strips totaling over 470 acres in forest areas, often on old farm

fields that had reverted to the brush and sapling stage; and the planting of 1,813,700 food-producing seedlings, and 31,700 transplants and cuttings.

In order that the public may see these food and cover developments, the Game Commission has directed that certain of the State Game Lands roads, designated by the responsible supervisors and so posted, shall be opened to automobile travel during the months of July and August and until September 11th. The Commission welcomes inspection of these lands but asks that all plant and animal life be undisturbed and all fire precautions be observed.

Bay State Continues Ban On Rabbit Imports

Massachusetts's Board of Fisheries and Game recently voted to continue its ban against the importation of cottontail rabbits in spite of some pressure from sportsmen's organizations for a relaxation of the restriction, according to the Wildlife Management Institute.

The Massachusetts Division of Fisheries and Game, in announcing the decision of the board, stated that an intensive habitat restoration program and livetrapping and transplanting project, already in effect, would result in more rabbits and better hunting than the promiscuous importation of western cottontails. Such programs cost less money in the long run, produce a hardier strain of rabbits, and insure breeding stock already acclimated to local conditions. Disease factors, however, were the major reasons for the decision of the board. The Bay State, once entirely free of tularemia, has experienced several cases within the past few years. These were the result of infection by imported rabbits or of native rabbits infected by them.

In Memoriam

Jacob Bates Abbott

Jacob Bates Abbott, Haverford, for years a Commission staff artist, died from a heart attack on July 14 while he was vacationing in New Hampshire. He was 54. One of America's foremost wildlife artists, Mr. Abbott was a regular contributor of both illustrations and articles on natural history to this magazine. His colorful portraits of wild birds and animals in their native habitat were featured on GAME NEWS front covers from 1941 to 1949.

A native of Brookline, Massachusetts, Abbott attended Harvard College but left at the end of his junior year in 1917 to enlist in the Army. He served in France during World War I as a machine gun officer with the 28th Division and was gassed at Chateau Thierry. Following his discharge he became a bond salesman, doing book jackets and illustrations on the side. In 1929 he moved his family to California and that year sold a comic strip called "The Gay Stone Age" to William Randolph Hearst. He later contracted to present Zane Grey's books in comic strip form. In 1934 he became a free-lance artist and concentrated entirely on wildlife illustrations. He sold his first cover painting to the *Saturday Evening Post* in 1935 and during the past 10 years he has illustrated about 35 books including the "Encyclopedia of American Birds" and "Animal Babies". One of his paintings was requested by the Library of Congress for its collection of outstanding wildlife illustrations.

Jacob Bates Abbott's interest in the GAME NEWS was constant and devoted. He took great pride in giving the magazine his wholehearted attention and best work. His untimely death came at a time when he was working on new ideas and illustrations for this and future issues. He had great plans for new and improved art and his passing was a great loss to this magazine.



When the Dogs Barked Treed

LEASBURG—On the last day of June, I received a call to come to Leasburg to get a raccoon out of the top of a cherry tree. This wasn't at all unusual for coons are always getting into some mischief or other. But the tree was situated right in the midst of a beagle kennel and about 25 beagles kept voicing their feelings at the audacity of a coon that literally "treed himself."—Game Protector Sam Weigel, Mercer.

The Turtle Takes Over

KUTZTOWN—While mowing thistles on State Game Lands 182 in May, one of my workmen disturbed a pheasant hen on a nest of 17 eggs. The hen refused to come back and the nest was abandoned for two days. To our surprise we found a turtle on the nest during the third day. None of the eggs were broken or disturbed and the turtle remained on the nest for half a day before we removed it.—Game Protector Harry Rickert, Kutztown.

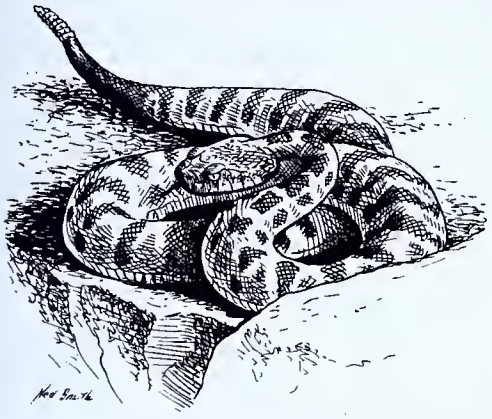


Persistent Predator

STROUDSBURG—While driving along a road into some food plots on State Game Lands 38 during May, I saw a weasel dragging a dead cottontail rabbit across the road. I drove to within four feet of the weasel but it refused to leave the rabbit. Having no firearm with me, I grabbed one of my hip boots and swung it at the weasel. He then ran about 20 feet away and stopped. The tiny, ferocious animal then returned to the rabbit and tried to drag it away. This time I picked up several stones and tried to hit him with them. Somehow the weasel managed to weather the barrage but I did succeed in chasing him off. I then went on to a tool shed to obtain a rabbit trap. Using the dead rabbit for bait, I had the weasel in this live-trap in a few hours.—Game Protector John Doebling, Stroudsburg.

Of Cover, Clover and Cottontails

MT. GRETNA—Just before dark on May 25, George Weller, Food and Cover Corps Foreman, and I drove along the edge of a clover field on State Game Lands 145 in Lebanon County. We observed 12 adult cottontail rabbits skipping in and out of the clover. Rabbits in such numbers certainly are unusual and, naturally, anyone interested in wildlife should wonder what is attracting them. Three years ago this same field contained very little food or cover and practically no rabbits. Sedge grass was predominant on the tract at that time. The area was limed and planted to corn. The following year corn and soybeans were planted. In the spring of 1949 oats and clover were planted here. At the present time this is the only clover field within a radius of a mile. —Land Utilization Assistant Al Bachman, Reading.



Rattlesnake Hunter

WEEDVILLE – Mr. William B. Smith, of Weedville, Elk County, follows the hobby of hunting rattlesnakes. During the month of May he killed a total of 109 rattlers and he has killed a total of 267 during the past three years. A number of these rattlesnake's stomachs were examined and the contents revealed young rabbits, songbirds, rats, mice, and a black squirrel. The largest snake ever killed by Mr. Smith was 5 feet 10 inches long; the largest killed in the past three years measured four feet. Smith is believed to be the most outstanding rattlesnake hunter in Elk County in the past thirty years.—Game Protector Dan Russ, St. Marys.

How You Gonna Keep 'Em . . .

MILFORD—Three deer purchased in Wisconsin by the Minks Pond Club of Lehman Township for breeding purposes recently escaped and wandered 12 miles in the Front Ridges, swam the Delaware River, and wound up feeding on farms along the New Jersey side. Two of the deer were captured by Jersey authorities and were returned to the Club. The third animal could not be found. In May, however, the third buck turned up again at the club farm, having swam the river and headed the 12 miles back to the club. Evidently this buck did not like his Jersey companions of the wild and decided it was better to be with his own pals down on the farm.—Game Protector John Lohman, Milford.

You Should Have Seen the Other Bird

BLAIN—One day during May, Food and Cover Corps Foreman Kline found a dead wild turkey gobbler on State Game Lands 215. Upon examining this bird very thoroughly, we found many bruises and scratch marks over its body. Here and there feathers were missing and we discovered a puncture wound along its backbone on the left side. We could come to only one conclusion: this unfortunate gobbler met up with a better gobbler. After what must have been quite a "fracus," if the feathers scattered over a large area are any indication, this bird received a fatal spur wound along its spine. The dead turkey weighed approximately 20 pounds and had spurs almost an inch and a half long. He was a beautiful specimen but his opponent surely must have been a better bird.—Game Protector Harold Russell, Blain.





Pennsylvania Game Commission
Harrisburg, Pa.
Gentlemen:

I am writing to cancel the five-year agreement I signed in regard to allowing hunting on my land, in return for "Protected Areas" and other considerations.

There is no use for you to say that I cannot do it, because I am doing it as of NOW. Never again will I allow hunting on my land except by individual, written permit. My land will be thoroughly posted as soon as I can get the signs nailed up.

It's no fault of the Commission or its agents, but the outlawry on the part of the hunters is intolerable, and I for one shall not put up with it further. The Commission has given the hunter every break and at the same time has attempted to give the landowner proper protection, but the hunter has destroyed his own sport.

The first day of the 1949 deer season I counted 43 hunters coming off my land back to their cars to eat their dinners. Not one of the 43 had the decency to ask my permission to hunt. Nine bucks were dragged through my front driveway, not twenty feet from my steps, and when I reminded the hunters that they were in a protected area, I got nothing but impertinence and defiance. The ruts in my drive literally ran with blood, deer were gutted out behind my old barn, the safety zone signs were utterly disregarded. The day before the season I caught two men shooting inside the safety zone just north of my house. They threw sacks over their shoulders so as to obscure their license tags and ran off.

I am sorry to have to repudiate an agreement made in good faith, but am compelled to do so. I have an idea other of my neighbors who signed the agreement will do the same thing, and you would be the last people to blame them. As I said, it is not the fault of the Commission, but the hunters are their own worst enemies. If they continue such conduct, they will find county after county barred to them.

G. M. A.
Sandy Lake, Mercer County.

Mr. Jay Gilford, Director
Wildlife Conservation Bureau
Pennsylvania Game Commission
Harrisburg, Pa.

Dear Mr. Gilford:

I certainly enjoyed my all too short visit with you and members of your staff.

Without beating around the bush, I want to get to the point of my letter and that is to express my amazement at the magnitude of your field program and of the solidly basic approach to the problem of wildlife restoration that the Bureau is undertaking.

During our discussion in your office, you mentioned the fact that you expected me to leave "pearls of wisdom," but believe me, I was the one that gathered the "pearls." I feel that this trip was entirely one-sided for I certainly did not give as much as I received. At another time I hope I can contribute to the program.

Sincerely,
PHILIP BARSKE,
Field Representative
Wildlife Management
Institute

Dear Sir:

Trusting that you won't faint on receiving this letter but after observing that there is an "open season" on the Game Commission all the time for the sportsmen that you try to

serve, I thought a word of encouragement might be welcome. I rather suspect that those who are pleased by the work of the Game Commission say little.

A few moments ago I was gazing meditatively at the four racks of antlers that once adorned the heads of nice bucks and I got to thinking how much I owed the Commission for sport, meat, lure of the outdoors, etc. Someone made it possible; it didn't happen by accident.. That big buck with the 22 inch spread that I sought for two years and then trailed for two days before I got him is quite a memory. That was a great experience, one that rightfully should be the heritage of all Americans who love nature.

Sometimes I am positive that truth is stranger than fiction because fiction is often conventional. Just recently I saw in the *Pittsburgh Post* where a farmer, Thomas Hileman, R. D. 2, Hollidaysburg, invited hunters in on December 10, 1949 to kill off the does that were stripping his farm. Forty-one deer were shot and removed from his land. Last spring I counted on April 15, the first day of trout season, 13 dead does or small deer on Hemlock Run in Warren County. A Federal Forester tells me that each deer in the upper tier counties should have about 13 square acres for adequate feed.

Often the fellows who are not happy and complain the most just don't mean what they say. During the last bear season I spent my vacation in Forest County and had occasion to be out in the forest every day for two weeks. I only hunted bear one day but I met hundreds of bear hunters. I decided to talk with each hunter that would talk. The stock greeting was "Watch out for Old Baldy." Sometimes there followed a stream of profanity. Old Baldy, it developed, was the "biggest b'ar in the hills" and I was amazed to learn that over fifty per cent of the bear hunters believed that Old Baldy, or any bear for that matter, would attack a person. Then, the majority of the hunters would start griping about their tough luck, the wet rain or snow, and everything in general. I would then point out that "it's a great counrty up here and, after all, if you can enjoy the beauty of these hills and the Tionesta stream, does it really matter whether or not a bear was killed?" Usually I asked, "What would you do with a bear if you got one?" Most hunters would say, "I don't know; never thought about it."

We forget how much good our Game Commission has done. This year I saw numerous signs of wild turkey. A friend of mine saw 20 in one flock in Forest County. Beaver are everywhere. Well, some of us know the story of the turkey and beaver come-back. It was neither God nor sportsmen; it was our Game Commission. All those bear hunters could not have hunted "Old Baldy" unless someone had established seasons and protected him.

Another thing that I like about the Game Commission is your field men. All of them have been courteous and helpful to me across twelve years. Most of them love the outdoors or they would not be working for the Game Commission. None ever get rich. As soon as they find out that your intentions are honorable and that you like the hills and streams, they are your friends. I will never be able to repay them or the Commission. You just can't know a real outdoor man like Carl Benson of Tionesta without feeling that the world is not a bad place in which to live. Carl has been in the hills so much and so long that he has become like them.

Sincerely,
ROY FRAZIER
Monroe, Pa.



By Ed Shearer

Good Fits Mean Consistent Hits

IN NO form of shooting is good stock fit so essential as scattergun shooting. The most exacting standards of boring and the finest quality of workmanship can be completely nullified by an improper fitting stock. I believe that more misses afield are caused by improperly fitted stocks than is generally realized by the average hunter. Probably the worst feature of poor fit is the hazy idea the average hunter has of it. He is prone to blame most everything under the sun for his misses but gun fit. Yet this will probably be the deciding factor in most cases.

I believe the almost universal disregard of stock fit among average hunters is because the true functions of the shotgun stock have not been stressed widely enough. The proof of this seems to lay in the reactions of the average shotgun user, who also shoots a rifle, when he gets unexplainable misses. To start with the rifle has two visible sights. While these sights have nothing to do with the inherent accuracy of the rifle itself they are all important in bringing that accuracy to bear on the target. Every rifle shooter knows that to hit a given target the sights must be in alignment with the axis of the bore of the barrel. He also knows that regardless of stock dimensions, any deviation of this bore and sight alignment means a miss in direct proportion to the amount of error between the two.

Consequently when misses start to occur for no apparent reason he does not blame the gun or ammunition. The first thing he does is to check the sights, by firing on a target that visibly records the hits, whether paper or otherwise. In nine cases out of ten the trouble is shown clearly. Then the error in elevation or windage is speedily and easily corrected, by adjusting the rear sight. The truth is the rifle would be a pretty sorry makeshift without the rear sight. Thus the rifle shooter has driven home to him from the start that his arm is only as good as his sight alignment.

Now take the same shooter when he picks up his shotgun for a day afield. What happens? He fires several shots at various pieces of game at varying speeds and ranges. The ranges are short from a rifle stand point but the shot is fast. No time here for precise alignment of sights. Hang alignment anyhow. He is well inoculated with the fond belief that pattern, spread like virtue, is supposed to cover a multitude of sins. Adding up his efforts at day's end he finds the following, to wit—one or two pieces of game and a choice collection of Mexican bullseyes. (The same being misses.)

So'o'o he damns the choke or he damns the shells. He may or may not do something about one or both, with little appreciable results. He may sell or trade his gun and find himself still in the same boat. In fact he'll do most everything but the one and right thing he would have done with his rifle under the

same conditions. That is, check the sights. Now before you conclude that "I'm a bit on the balmy side" let me state that both the rifle and shotgun have two sights. The stock of the shotgun replaces the rear sight of the rifle. They both control elevation and windage or to be more simple, point of impact. The big difference is the rear sight on the rifle is regulated to the bore and caliber of the rifle it is used on. The shotgun rear sight or stock must be regulated to the physical characteristics of the individual who uses it, regardless of bore weight or length.

Thus it is plain that the hunter who puts his faith in pattern spread as a cure-all is in the same class as the deer hunter who hunts with his sights out of alignment. Its "spuds an' beans fo suppah, brothah, tha bacon done gib out."

Now that the stock's function as a rear sight is clear, let us take a look at the mechanics of the stock that control elevation and windage of the shot pattern. To start with let us deal with factors that control elevation. Gun stocks are set in the gun receiver at such an angle that the butt end of the stock is lower than the surface of the barrels. The difference is called drop because the stock is dropped down lower than the rest of the gun. This drop is very important because it is the first factor that controls elevation and fit of the stock in general. It controls elevation by establishing the position of your face and eye behind the barrel. A stock with small drop has a higher comb and will consequently hold your eye in a higher position when you lay your cheek against it. By the same token a stock with more drop will have a lower comb which will give a lower position for your eye.

Thus in snap shooting, when no conscious aim is taken, the gun is thrown to the shoulder and fired when the cheek touches the comb. If the drop is correct, the eye will line up back of the front sight in proper elevation to insure correct aim and hit.

If a stock has plenty of drop, it is said to be crooked. If it has little drop, it is said to be straight. Stock drop is measured at two points—drop at the comb and drop at the heel. These dimensions are easily measured.

If a drop at the heel of a gun measures 2¾ inches, that is going a bit on the crooked side. A drop of 2¼ inches is on the straight end. It takes a build out of the ordinary to require anything over or under these limits. Our arms manufacturers have conducted exhaustive research for years to determine just what stock dimensions would fit the greatest number of people. Today most factory stocks run around 1⅝ inch at the comb and 2½ to 2¾ inch at the heel.

The more drop you have in your stock the more the tendency is to point or aim the shotgun low, and



Ed Shearer

maybe under shoot the target. The straighter the stock the greater the tendency to point the shotgun high and overshoot the target. This changing the drop of the stock does not effect the shooting of the gun itself; that is constant. But it does change the way you point the gun and THAT changes the point of impact of the shot pattern.

Generally speaking bird hunters and trapshooters favor the straighter stocks. Their targets are rising as a rule and even if the charge goes a bit high it is automatically compensated for in the form of lead or distance you hold ahead of a moving target to hit it. Stocks with more drop are preferred by duck hunters who shoot over decoys and whose birds are coming down as a rule. Another case in point is the rabbit shooter. Many shots ahead of the dogs are right angle shots and a straight stock will tend to over-shoot.

The height of the comb also has a bearing on elevation as it determines the height of the eye. This can be varied within certain limits by building up the comb to raise elevation or shaving it down to lower elevation. This should be done by small degrees with frequent tryouts. The factories will change the drop within reasonable limits for a small charge.

Changing the pitch of the gun will also have a bearing on the elevation. Pitch is the angle of the stock butt in relation to the top surface of the barrel. Stocks are not cut at right angles to the barrels but slope off with a toe. The quickest way to determine the amount of pitch of a gun is to stand it against the wall with the heel and toe of the stock on the floor. The distance the muzzle leans away from the wall is the amount of pitch. Less pitch tends to raise elevation--more tends to lower it. More pitch is given by cutting away the toe of the stock. Less pitch is given by shaving away wood from the heel. Do this sparingly with frequent tryouts.

Stock length is measured from the front or single trigger to middle of the butt. About 14 to 14½ inches is the normal length. Short stocks accentuate recoil—long stocks reduce the effects of recoil.

Windage is controlled by the thickness of the comb where the cheek rests. It may be shaved down or built up depending whether you shoot to right or left.

Now, in conclusion, there is one simple way to determine whether your gun is "shootin' where you're lookin' ". Place a black target of at least six inches width on a background at the distance you average on game. Have at least five of these targets and five shells of your favorite load. Now with the same clothes you hunt in, bring your gun to your shoulder and fire when your cheek hits the comb of your stock. If the average of your targets brings your aiming point well within your pattern, you have nothing to worry about. If it doesn't, the remedy lies within this article. Either way, you're due to learn a lot about your gun pattern.



By John F. Blair

Must Our Nation Fade

THERE is an enemy quietly but incessantly digging at the very foundation of our country. It has more possibility of removing us from our place at the head of the table around which the family of nations gather than any other force. When all the chips are down, the final "yardstick" by which all material things are measured is food. This enemy is striking at our food supply. We call it EROSION.

It has been only 174 years since our great nation was born. Then it was a land of deep forests, wide plains and high mountains through which flowed rivers and streams, crystal clear, pure and uncontaminated, and teeming with aquatic life. The land had abundant wildlife which was one of the principle sources of food for the early settlers. The entire country from north to south, east to west, was covered with fertile topsoil a few inches to several feet in depth. Without this topsoil neither plants nor animals could live.

Much of this land was covered with forests of both soft and hardwood trees. It was cut-over many times and the logs were often burned to furnish crop land for the expanding civilization. Bumper crops of tobacco and cotton in the South, corn in the North and wheat in the West were harvested year after year. In so doing, the topsoil was robbed of its life-giving minerals because nothing was returned to the soil. Thousands of acres of what was once productive land have, through misuse, become so poor that they will no longer grow a crop and have been abandoned. These lands are growing up to shrubs and brush with no food value to man. With this land it is not now a matter of saving the top soil but one of reclaiming and rebuilding it through the application of lime and other fertilizer and the growing of clover and other legumes to be turned under, thus providing valuable plant food and minerals which are no longer in the soil.

The use of a winter cover crop is imperative, especially in row cropped fields, to prevent wind and water erosion over the winter months. Domestic ryegrass is most widely used in Pennsylvania for this purpose at present. Sown in corn, preferably after the last cultivation, it produces a good root growth and usually several inches of top growth which provides a blanket of protection against both wind and water erosion. Turned under in the spring it makes a coat of green manure. The "writing on the wall" tells us that such a winter cover crop is mandatory and if not used in row crops such as corn, tobacco, and cotton in an approved rotation, erosion will surely bring us to the state where we cannot produce enough from the land to maintain our standard of living.

Despite the teachings of all agricultural schools, conservation classes, and the missionary work of all conservation agencies, much of the farming that is being done today is the same as was done in the horse and buggy days. On many of the rolling

farms of Pennsylvania, farmers are still plowing whole hillsides from bottom to top. With each crop of grain raised—corn last year, oats this spring and wheat this fall—the whole hillside is plowed as a field. The soft, gentle rains come, as they must if we are to have crops at all. There is little damage to the soil for the earth can absorb this water as it falls. Then come the dashing thunder and lightning storms. The rain comes down in torrents and in plowed fields tiny rivulets start at the top of the hill, become larger and run faster the farther down the slope they travel, carry more and more topsoil and minerals away the farther they go. There goes your lime and fertilizer, there goes other minerals, and there goes the topsoil to be deposited on the roads or in the valleys at the bottom of the hills, many times to be carried away down the streams as silt. It is doubtful if the destruction of one such storm to a plowed hillside can be corrected in the lifetime of a man and if so, only at a terrible cost in both material and labor. The sad part of the story is: this destruction could have been avoided by proper farming methods.

The most progressive landowners have long since seen the fallacy of such farming and instead of plowing an entire hillside with each crop, they have adopted the method of strip farming on the contour, leaving strips of hay of equal width between each strip of plowed ground. The strip of hay slows down the flow of water and has been very accurately described as "making running water walk". Slow moving water is more readily absorbed by the soil which stores it up to raise better crops. Many farmers feel that strip farming on the contour alone increases their crop yield from 10 to 20 per cent. In addition the lime and fertilizer placed on the land, instead of being washed away, is left with the soil to be of value to future crops.

Scientists tell us that it takes two and a half acres of fertile soil to produce enough to feed and clothe each individual on the standards to which we in this country are accustomed. We now have three acres of topsoil for each individual. We are losing topsoil, through erosion, at the rate of 8,000 acres every 24 hours. Our population is increasing each year by approximately 2,000,000 people. If the time ever comes when we are not able to produce enough from the land to maintain our standard of living (and unless erosion is stopped that time will surely come) what will be the effect on this great nation of ours? Will we lose our place at the head of the family of nations? This has happened before to other great nations. Or will the people of our country become conservation conscious in time to save our soil?



John Blair



Butler County Council

On June 17th the Butler County Council, which is affiliated with the Pennsylvania Federation of Sportsmen's Clubs, sponsored a Junior Field Day at the club grounds of the Zelienople - Harmony Sportsmen's Clubs. Juniors between the ages of 12 and 18 who belong to a junior sportsmen club or whose fathers belong to a sportsmen's club affiliated with the Federation were invited. The whole day was devoted to activities of interest to juniors, including range shooting as individuals and as teams, mo-skeet, instruction in the use of the bow and arrow, bait and plug casting, and demonstrations of muzzle loader shooting. Game Protectors put on a fox trapping demonstration and instructed the boys in crow calling. The boys were brought to the grounds on buses provided by the individual clubs or by fathers and friends. Everything connected with the Field Day was free. The affair is held every year with the money donated by the clubs affiliated with the Council. A tape recording of the event was made and was later broadcast over a Butler radio station.

Red Lion Game and Fish Association

The Red Lion Game and Fish Association have announced the acquisition of a permanent headquarters. The club recently purchased Grim's School House, located about a mile south of Red Lion on an improved road. It has also announced a 1949 club release of 456 rabbits and 150 pheasants.

Tedyuscung Sportsmen's Association

The Tedyuscung Sportsmen's Association of Philadelphia is forging ahead with a progressive program in southeastern Pennsylvania. Headed by President Ed Walter, the club members are doing more than just talking about conservation. One of the highlights of their activities this spring, for example, was a multiflora rose planting project. A group of 12 members reported to Captain Les Robinson and traveled to Buckville in April where they cleared and planted 1500 feet of fence line in two days of hard work. The club also will hold a unique fund raising project in September. They have asked all members to scour their attics and basements for unwanted outdoor equipment and clothing which will be auctioned off at the September meeting. Club officials point out that in addition to raising the club treasury balance, the sale also provides opportunity for junior members to obtain much needed and otherwise unobtainable equipment. The club publication, "The Tomahawk," is one of the best edited and most informative sportsmen's papers in the state.

Unami Fish and Game Protective Association

Plans and materials have been secured to provide lighting for night shooting on both the rifle range and over the traps of the Unami Association. The club reports growing popularity of night shooting and has conducted rifle and shotgun shoots during the summer months. The club also made a concrete effort to show the farmers along the streams that organized sportsmen can be helpful and cooperative by erecting posters along the banks urging anglers to respect farm property.

Clinton County Sportsmen's Federation

The U. S. Fish and Wildlife Service fish cultural station at Lamar, producer of over six and one-half million fish since 1933, was officially dedicated on July 12. Dedication ceremonies were sponsored by the Clinton County Sportsmen's Federation consisting of the Beech Creek Sportsmen's Association, Clinton County Fish and Game Association, Southern Clinton County Forest, Fish and Game Association, and the Western Sportsmen's Association. Congressmen Leon H. Gavin and Robert F. Rich gave dedication addresses. Following the ceremonies were fly casting, bass spinning, and minnow trap demonstrations. A section of Fishing Creek stocked with trout from the hatchery was opened for fishing after the dedication.

Pennsylvania Trappers Association

A special fur-taker's license was recommended during the 13th annual convention of the Pennsylvania Trapper's Association held at Elliot State park, Clearfield County, on June 3rd. Gene Hill was re-elected president, Raymond Beck as vice-president, and Lawrence Kopp as secretary-treasurer. A large representation was present from all over the Commonwealth.

The Association approved resolutions called for Game Commission stocking of depleted muskrat marshes, making it unlawful to take minks in any other manner except in traps, eliminating trap tagging requirements, issuance of snare permits to reliable persons, a closed season on muskrats in 1950, and an unlimited season on raccoons.



Times Photo

Boys from northeastern Pennsylvania who were selected and sponsored by the Lackawanna County Federation of Sportsmen's Clubs to attend the 1950 Junior Conservation Camp in early July are, left to right: Robert Stanton, Charles Zupp, Richard Kimble, Donald Michel, and William Lamm. Shown congratulating the junior sportsmen are John L. Neiger, left, Federation President, and Warren C. Smith, executive-director of the Boys Club-Big Brother Organization.



By Grace O. Beach

Untie The Apron Strings

THIS Department has been set aside for WOMEN ONLY. Of course we can't stop the men from sneaking curious glances and lingering surreptitiously over our very own page in the GAME NEWS. They probably are just curious to learn what the ladies are up to next. However, we gladly welcome their interest and hope they too enjoy our effort.

Every year, more and more women are enjoying the same thrill in days afield as their sports-inclined men folks. Each year, more and more men are taking the little woman along to join the fun. They are finding the closer companionship and enjoyment of a day spent together in the open can be a most pleasant experience.

Secretly, we believe they get a great kick out of showing the little lady how it is done, sometimes a little gruffly and impatient to be sure, but underneath it all quite proud to impart their skill and knowledge.

At first, they are a little skeptical of how the whole affair will turn out. Then they are usually surprised to find the lady learns fast, can take it, is a pretty good sport and thoroughly enjoys the fun.

As time goes on they discover we make rather good partners. Always on the spot ready to untie the apron strings, pick up a gun, or perhaps a bow and arrow and be off for a day of hunting. Then too, we are always available when it comes to reminiscing over the day's sport.

All too often the gentleman wakes up to the fact that the competition has grown quite keen and his feminine partner has bagged the prize of the day.

The writer has been through it all with father, husband and other members of the hunting fraternity. It's great sport and we enjoy every minute spent outdoors together in field and forest.

Those of you who have already joined the force, have long felt the need for a common meeting ground which we hope to establish through this department. Other women will follow our footsteps as amateurs in a new game. In addition, there are thousands of women who are interested in conservation which is of the utmost importance to every woman and her family.

Regardless of your interest, these pages are devoted to the ladies in the homes to which the PENNSYLVANIA GAME NEWS finds its way, and we hope to have something of interest and help for you each month.

Don't be surprised if you find a recipe for cooking game snipped from one of your future editions. No doubt the fellow in your family who totes a gun, plans to surprise the gang when it is his turn to cook at camp. Don't be too hard on him, just drop a line and we will fill in the blank.

In addition, the writer will gladly welcome letters from the readers. Let us hear about some of your experiences, send in any tips or suggestions you have to offer, or any questions you wish to have answered. Our aim is to supply correct information and help to the readers.

A Tip

This month there is a new tang to the air and forest and field puts on a new dress as nature's paint brush goes to work on an annual color spree. Don't miss spending a day in the open taking in the beauty of our Pennsylvania hills.

A picnic lunch at this time of year tastes especially good, particularly if you contrive something hot as the main attraction. If you are not supplied with outdoor cooking equipment you will find "Hotcans" a quick easy method for supplying that something hot. All you do is puncture four holes in the bottom of the can and in 12 minutes you have piping hot food on hand. You may take your choice of frankfurters and beans, hamburgers, chicken dinner, chicken soup, and also coffee and chocolate.

You will find many uses for this handy package at camp, picnics and on long trips. Let me give you a little tip—that hunter in your family will bless you if you slip a can of soup, coffee or chocolate into his lunch package some cold day during the coming hunting season. Include one for yourself if you go along. Your local sporting goods store no doubt handles "Hotcans" or will obtain them for you.

September Calendar

As you visit the woods and fields this month you will notice much activity and a great restlessness among wildlife creatures, for nature's annual shuffle is taking place. Animals move about considerably and squirrels are often observed miles away from the woods. The young raccoons begin to pair off and hunt on their own and like their parents travel mostly at night.

If you are fortunate enough to see some young fawns you'll find the white spots on their coats becoming quite faint as they start to put on their winter attire.

Bears are rummaging for late summer and autumn food in preparation for their winter sleep. Birds and wildfowl are gathering in groups, nervously casting their weather eye at the sky for they will soon be taking off on their long trip to the south.

If you're inclined to the sport of hunting you'll find you, too, are possessed with this great restlessness that pervades the air. You will suddenly remember that November is just a few weeks away and hunting season will be on. The month when all hunters thrill to the sound of baying hounds and the sharp crack of the gun on the cool frosty air. See that your gun is ready and get in a little practice shooting. You'll be glad you did when your shots find their mark and you get your game instead of a miss or a cripple which are to be avoided if possible.



Grace O. Beach



By L. J. Kopp

Time To Prepare

AMONG experienced trappers there is a saying that, "every month with an R is the time for trappers to be active." This means that a trapper is working at his outdoor pursuit from September to April.

September is the time to prepare for the coming fur season, i.e., getting the trapline in readiness by preparing set locations, and in general becoming familiar with the area in which you intend to trap.

The time is also at hand to check over trapping equipment. New traps and other tools may be needed. Repairs on old equipment may be in order. And so generally speaking, a trapper works much the same as a farmer. A farmer prepares his fields, and plants his seeds in the Spring. When Fall comes, he harvests his crops. So the trapper should prepare his trapline in the early Fall in order to harvest the fur crop later on.

Fur prospecting is a close second to actually trapping the fur insofar as the real trapper is concerned. Many beginning trappers do not understand the full meaning, or the importance of prospecting the trapline, and I am here to tell you that it is the most important part of a good trapper's work.

The fox is probably the one animal which everybody is interested in. Even the uninterested spectator perks up his ears at the mention of fox trapping. Much of this has been brought about by the many fairy tales we read in our grade school days.

Then too, many of our old time veteran trappers who were trapping years ago when foxes were not as plentiful as they are today, and therefore more difficult to catch, tell many tales of the wise old fox. Now all of these things have helped to establish the idea that one needs more than the knowledge you credit yourself with. I would not be surprised if you did not already know enough about trapping to be able to catch a fox.

We know first of all that all foxes like to travel along a path of almost any kind. This could be a rabbit path, a cow path, a furrow made by a plow, and old mountain roads which were at one time used by foresters to haul out logs and lumber. The thing to look for are fox droppings. When droppings are numerous, you can be sure that foxes are using the trail or path regularly.

What is more enjoyable then to spend a Sunday afternoon walking along old mountain roads looking for fur signs? Walk slowly, and keep your eyes on the ground. Pay special attention to rocks which protrude above the ground in the center of the road. Very often you will find fox droppings on such stones. This is a peculiar habit of the fox, and just why they like to deposit their dung on such conspicuous objects is one of the little mysteries about the sly fox.

Following such roads or paths is one of the best ways of finding out whether there are any foxes around.

It is a good idea to examine some of the "more recent" looking drop-

pings in order to determine what foxes are feeding on. In this way you will often be able to determine exactly where they feed.

Last Fall for example I was following such an old road and noticed that fox droppings were fairly plentiful. Occasionally I stopped and examined one or several. It was apparent that these foxes were feeding in an apple orchard not too far away, since many of the droppings contained apple peels, and seeds. I kept on following the road, and shortly came to a point where the old road came very close to the edge of the woods, and there through the brush I saw the apple orchard.

My next step was to look around for a suitable location for a trap site. On the other side of this apple orchard was an open field where the farmer had made hay during the summer, and I soon decided upon the ideal spot for my pre-season work.

Being equipped with all the necessary tools for preparing a dirt hole set, I went to work and dug out a bait hole, removed the sod in front of this hole, dug up the ground, and left. The grass and larger stones were placed on my sifter and carried away. When the trapping season came around, all I had to do was to dig up the loose dirt, and set my trap.

By preparing such set locations you accomplish two things: First you save time, since you need only to set the trap. And second: The foxes will have become more or less used to the site, though this is not at all necessary. In fact freshly dug earth attracts foxes. The important thing is the time you save while out setting traps. With your trap sites all planned and ready, trap setting can be done much faster than if you would first have to decide where to make the set.

Sometimes you may find fox droppings which contain numerous grape seeds. Or it might be the wings of insects such as grass-hoppers, crickets, etc. These latter would indicate that the foxes are feeding on insects. In other words they are feeding out in the open fields where these insects are found. In such cases, trap sites are made in nearby fields, preferably in fields where the farmer made hay.

It is in such fields that you will find the insects which the fox are feeding on. Fox sets should never be made in Fall-seeded wheat fields, nor in corn fields. A farmer might not object to your setting traps in his wheat field, but you will find that when it rains such a field can be awful muddy when you come looking for your trap. In this case you could not help but leave a trail to and from your set.

It is not only the beginner who prospects his trapline for fox, but the more experienced trapper as well. Most fox trappers have established fox lines, and old trap sites are used one year after the other. However very often changes take place during the summer which necessitate the making of new sets. I recall last season I was going over a section of my own trapline, and found that in a field where the season before I had caught four foxes, the farmer was now growing a crop of corn, and so I soon found myself looking around for another suitable trap site in the vicinity of the old one.

For those not familiar with making a trap site for fox it might be well to explain that it is simply a matter of digging a hole about two inches wide, and about five or six inches deep. This is the bait hole, and is dug on a forty-five degree angle, or on a slant. Directly in front of this hole, you remove the grass and larger stones, in a V shape, then dig it up, and leave it. The grass etc. is carried away and discarded. Setting the trap is another matter, but right now we are just out to get ready for that.

Fox tracks, while more difficult to find, are among other signs which

indicate the presence of fox. A fox track resembles that of a dog, only it is smaller. However do not confuse the track of a cat with that of a fox, since there is a resemblance between the two. In so many words, a fox track looks like that of a dog, and in size it is somewhere between a dog and a cat track.

Such tracks might be found at muddy spots along almost any old mountain road, including public highways along mountains. The best time to look for fox tracks would be after a good rain. On the other hand, tracks may be found in the dust or in sand along the road.

The dirt hole set which I have just explained is also a very good set for raccoon. Such trap sites can be made by side ant hills such as one often sees while walking along an old logging road. The coon quite frequently travels along these same roads as does the fox, but usually not for as long a distance.

Whenever you see coon tracks along such roads, it indicates that a coon den tree is nearby, and sets made along the road often catch coon. Coon are fond of fish and spend much time along streams. At some muddy places you will find the coons' tracks one on top of the other.

A good idea is to prepare a dirt hole trap site along the top of the stream bank. Such sets can be anywhere from three to twenty feet away from the stream proper. In fact it is better to refrain from setting coon traps in the water, and thus avoid catching illegal muskrats. When coon are traveling along a stream, they can easily be lured to your dirt set by using honey, or some other commercially prepared coon scent. Hollow logs which you may find along the stream offer ideal set locations for coon, as well as skunk, possum, and weasel.

There are a number of preparations to be made in view of trapping such fur animals as the weasel, skunk, and the opossum. Weasel pelts are bringing a good price today, and it will pay you to really go after them. Weasels do not have a home, so to speak. They are always moving around, and spend a great deal of time searching rock piles, wood piles, along old stone fences, and along stream banks in search of mice.

Such places are good spots to build cubby pens. This trap site is made by placing long flat stones in an upright position, leaning against a tree. The stones are placed in such a way as to form a small tunnel. Along stone fences small miniature tunnels can be built. Fence rows also offer some more good locations for building cubby pens. Many fur animals travel along these fence rows, since they offer more or less shelter.



L. J. Kopp



Photo by Raup

A soft-called "come, kwee kwee" brought the female grouse in the picture above soaring in from a hillside clump of trees to within a few feet of Mrs. Harry Tauscher, Coudersport last spring. A handful of corn did the rest. As tame as a chicken, the grouse showed no fear of humans and not even an exploding flash bulb fazed the bird.

Food for Wildlife Plentiful This Year

Experience and knowledge qualify Game Protector Theodore Carlson, Clearfield, to speak on conditions affecting wildlife. His 1950 game food observations are typical of those recently received from numerous game officers over the Commonwealth.

Carlson says: "From present indications all types of food-bearing trees and shrubs will carry a heavy crop this late summer and fall. The beechnut and black cherry, the top food-bearers in this area, are heavy with nuts and cherries. Blackberries and wild apples—old standbys—are producing heavily and at the present time there is a very heavy crop of Juneberries and the red-berried elder. Wild grapes are producing an excellent crop and it is evident that wildlife will enjoy a bountiful harvest of nourishing food."

Ivory-Billed Woodpecker Still With Us

The ivory-billed woodpecker, already tentatively listed on the roster of exterminated species, still survives, according to the Wildlife Management Institute.

Two of the big woodpeckers, almost removed from the American scene by the destruction of the primeval forests, recently were discovered by an expedition led by Whitney H. Eastman, Minneaopolis business executive and amateur ornithologist. The survivors were found in Florida, according to the National Audubon Society. None of the ivory-bills have been reliably reported since 1947. The pileated woodpecker is frequently mistaken for the ivory-bill and the close resemblance between the two birds has confused the status of the rare species.

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Pennsylvania Official 1950 Open Seasons and Bag Limits

(Federal Regulations on Waterfowl and Other Migratory Game Birds may be Secured from License Issuing Agents or Game Commission, when Available.)

Open season includes all dates listed, **Sundays excepted** for game. **On November 1 and November 27 no hunting of any kind before 9 a. m.** Except November 1 and November 27, shooting hours daily are 7 a. m. to 5 p. m. but from July 1 to September 30 inclusive, 6 a. m. to 7:30 p. m. (All shooting hours based on Eastern Standard Time.)

UPLAND GAME (Small Game Possession Limit Two Days' Bag After First Day)	**Bag Limits** Day	Season	**Open Seasons** First Day	Last Day
Quail, Bobwhite	4	12	Nov. 1	Nov. 15
Hungarian Partridges	2	8	Nov. 1	Nov. 15
Ruffed Grouse	2	6	Nov. 1	Nov. 15
Wild Turkeys (See **counties closed** and those with **restricted season below**)*	1	1	Nov. 1	Nov. 25
Ringneck Pheasants, males only	2	8	Nov. 1	Nov. 25
Rabbits, Cottontail	4	20	Nov. 1	Nov. 25
Squirrels, Gray, Black & Fox (combined kinds)	4	20	Nov. 1	Nov. 25
Squirrels, Red **(closed October only)**	Unlimited		All months except Oct.	
Hares (Snowshoe Rabbits)	2	6	Dec. 25	Jan. 1, 1951
Raccoons, by individual or hunting party*	5	}	Oct. 16	Feb. 1, 1951
Raccoons, by trapping*	..	} 40	Oct. 16	Feb. 1, 1951
Woodchucks (Groundhogs)	5	Unlimited	1950: July 1-Sept. 30 1951: July 2-Sept. 29	
Grackles **(closed October only)**	Unlimited		All months except Oct.	
Bears, over one year old, by individual	1	1	Nov. 13	Nov. 18
Bears, as above, by hunting party of three or more	2	2	Nov. 13	Nov. 18
Deer, Antlerless (See Note)* by individual	1	1	Nov. 27	Nov. 28
Deer, male with two or more points to one antler (See Note)*, by individual	1	1	Nov. 29	Dec. 9
NO OPEN SEASON—(Hen Pheasants, Cub Bears, Elk and Spike Bucks)				
FURBEARERS				
Skunks	Unlimited		Unprotected Sept. 1, 1950 to Sept. 1, 1951	
Opossums	Unlimited		Unprotected to Sept. 1, 1951	
Minks	Unlimited		Nov. 6	Dec. 16
Otters	Unlimited		Nov. 6	Dec. 16
Beavers (traps only), State-wide*	2	2	Feb. 15, 1951	Mar. 1, 1951
Muskrats			NO OPEN SEASON	

*SPECIAL REGULATIONS

Turkeys, Counties Closed—Adams; Armstrong; that part of Cambria west of Highway Routes 271 and 56; that part of Cumberland south of U. S. Highway Route No. 11 to the west shore of the Susquehanna River; Fayette; that part of Franklin south and east of U. S. Highway Route No. 11; Greene; Mercer; Somerset; Venango; Westmoreland and York have no open season.

Turkeys, Restricted Season—Bradford; Cameron; Carbon; Centre; Clarion; Clearfield; Clinton; Elk; Forest; Jefferson; Lackawanna; Luzerne; Lycoming; McKean; Monroe; Pike; Potter; Sullivan; Susquehanna; Tioga; Union; Warren; Wayne; and Wyoming. **OPEN SEASON**—Nov. 1-12 inclusive; **CLOSED DURING BEAR SEASON**—Nov. 13-18 inclusive; **OPEN SEASON**—Nov. 19-25 inclusive.

Raccoons—Hunting season begins at 7 a. m. on the first day, and ends at Noon on last day (see instructions below concerning trapping). May be hunted day or night, Sundays excepted. The season limit applies to hunting and trapping combined.

Deer—Antlerless Deer may be taken only Nov. 27 and Nov. 28, State-wide, without special permits. Season may be closed in any County under Act 221 of 1949. (Newspapers will announce closed counties, if any.) This year a hunter may kill either one antlerless deer or one legal antlered deer—not both—within the periods prescribed, whether hunting individually or with a camp or hunting party.

Beavers—No trapping at Commission-posted dams. **Nonresidents may not trap beavers. One person may set, tend or operate 10 traps only.** Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or waterline to facilitate identification without disturbing traps. **Pelts must be tagged within 10 days after season,** and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

Trapping—Traps for furbearers and raccoons not to be placed, staked or set before 7 a. m. on the first day of the open seasons. The season on the last date indicated for Trapping closes at 12 o'clock Noon on last day. Traps must be tagged with metal name tags.

Snares—The use of snares is prohibited in all counties except by special permit.

REGULATIONS FOR UPLAND GAME FIXED BY PENNA. GAME COMMISSION AT MEETING JULY 6, 1950.

1950 HUNTING LICENSE IS VALID SEPT. 1, 1950 TO AUG. 31, 1951, BOTH DATES INCLUSIVE.

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SPECIAL ISSUE No. 1

"Our Deer Problem"

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Foreword

This special issue of the PENNSYLVANIA GAME NEWS, which is a forerunner of others to follow, is intended as an educational medium to assure greater appreciation of the problems of conservation and our wildlife, as well as the need for wise management.

Education is essential to achieve understanding which can easily bring sympathetic response—vital to success. PENNSYLVANIA'S DEER PROBLEM is presented with the confidence that it will provide broad factual information on a difficult and highly controversial wildlife management problem—the solution of which is not likely to be accepted until it is better understood by everyone.

In this issue the well qualified author presents a clear and unbiased account of the recreational value of the Pennsylvania deer herd, as well as its devastating effects if not properly controlled.

With the knowledge that the information is factual and the conviction that it should prove both enlightening and beneficial to the general public, this issue is made available as a conservation education service.

Additional copies in limited numbers can be procured by enclosing ten cents (10c) in coin to cover cost of mailing and handling to: Pennsylvania Game Commission, Harrisburg, Pa.



Pennsylvania's DEER PROBLEM



by ROGER M. LATHAM

INTRODUCTION

THIS bulletin has been written for the deer hunters of Pennsylvania. Its purpose is to present to these hunters a brief and concise account of the problems which face the Game Commission in its attempt to manage the deer herd sensibly and scientifically. *The constant goal of this management is to provide the best possible deer hunting on a sustained basis—that is, maximum production for next year, for ten years later, and for generations to come.*

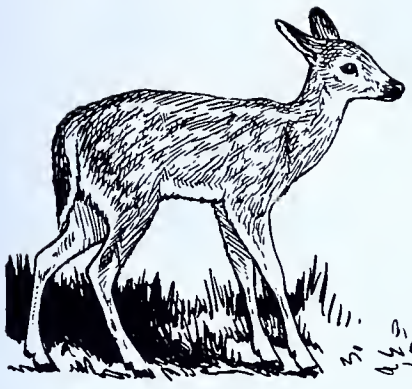
Probably the most formidable problem which has confronted the Game Commission during the past 30 years, and one which has seriously hampered scientific management, has been the opposition of well-meaning, but uninformed, deer hunters. This lack of confidence in the ability of the Commission and its trained personnel to formulate and carry out sound management practices has created an undesirable relationship between the hunter and the Game Commission, and even more important this active opposition has endangered the future of the sport in Pennsylvania.

Most of the dissension between the hunters and the Game Commission concerning the management of the deer herd arises because so many sportsmen lack a complete knowledge of the habits and physiological requirements of this animal. It is hoped that the material contained within this bulletin will supply this knowledge and aid in eliminating many of the perennial objections to certain necessary management procedures.

A sincere appeal is made to the deer hunter to think seriously and deeply about the facts presented on the following pages. It is suggested that for the moment he forget his own pet ideas about how the deer should be managed, forget about the deer in his own "backyard," forget what Tom Jones said about how the Game Commission is ruining the hunting in Pennsylvania, forget the outmoded notions about deer which have been handed down from father and grandfather, and open his mind wide to the facts and problems presented. These are facts based upon years of research and study by professionally-trained wildlife men in Pennsylvania and other states; they are facts which have been checked and rechecked and are sincerely believed to be true; they are derived from scientific investigation and propounded from the latest knowledge in the field of wildlife management; *they are facts,* not the insecure ideas and imaginings of laymen who base their opinions upon one or two observations, perhaps poorly interpreted, or upon a questionable knowledge gained by a few years of deer hunting.

If after a careful and honest analysis of the contents the reader cannot agree and feels that his solution to the deer problem is preferable, he should try an experiment of his own. He should present his ideas to several of his deer hunting friends individually and see if he can get any two to agree with him entirely. Most will probably have a plan of their own to suggest. The fact that few deer hunters can agree should be proof enough that the future of Pennsylvania's deer is safest in the hands of the trained personnel of the Game Commission.





LIFE HISTORY

A brief life history will be presented merely to acquaint the hunter with certain facts which may aid him in understanding the necessity or desirability of certain management practices outlined later in the bulletin. A surprising number of hunters, who regularly criticize management polices, do not even know that deer are red in summer and gray in winter, or that they shed their antlers and grow a new rack each year, or that a buck may have as many as ten points upon its first set of antlers.

Mating

The rutting season is normally confined to the months of October, November, and December in Pennsylvania. However, in some sections of the state where the sex ratio of adult deer greatly favors the female, some does may not be bred at the usual time. It appears that these does may then enter another oestrous cycle sometime during February or March, and, if bred at that time, the fawns are born in September. A very few may not be bred until June or July, and the fawns resulting from these matings are born in January. During each antlerless deer season a few pregnant does are shot containing embryos which would have been born within a few weeks. September-born fawns weighing as little as eighteen pounds hog-dressed have been killed during these seasons. Although persons who kill these tiny fawns may be criticized and ridiculed by other hunters, their deed is likely an act of mercy, as the chances for these immature deer to survive the winter are slight. It is better that they should be killed quickly and mercifully than be permitted to die a lingering death from cold and malnutrition during mid-winter. Needless to say, no January-born fawns could survive in the wild.

In captivity, a buck may mate successfully with a dozen or more does, but in the wild a ratio greater than three or four does to one buck is likely to lead to the condition mentioned above. If the 30,000 mature bucks killed during the hunting season represent about 40 per cent of those alive during October and November, then this would mean that there would be one buck of breeding age for about every 200 acres of forest land. When so sparsely distributed, it is readily conceivable that some does might not be bred during the regular rutting season. Whitetails are believed to be the most monogamous of all deer and a sex ratio of one male to one female is probably the optimum breeding population.

Does have been known to breed successfully for as long as 12 to 15



Fawns are normally born between late May and early July. Unless separated by accident or death, they will stay with the mother throughout the winter.

years. Since in the wild the average age of deer appears to be less than three years, it is believed that *there is normally no such thing as a barren doe.* Some does may not be bred because of the greatly unbalanced sex ratio or a very few may be incapable of reproduction because of injury, *but it would certainly be a rare occurrence for a doe to become barren simply because she was too old to reproduce.*

During the fall, adult bucks will fight nearly every time they meet. Few animals exhibit the ferocity, strength, and speed of the whitetail, and a buck fight is an awe-inspiring spectacle. With hair standing erect and ears laid back on their swollen necks, they walk stiff-leggedly sideways toward each other, and then, when about ten feet apart, they suddenly lunge forward and crash head-on. They may separate immediately and strike again and again, or they may leave their antlers locked and push with all their might until one is forced backward or down on its knees. Superiority is quickly recognized, and the vanquished is not too proud to turn tail and run. For this reason, few deer are killed when fighting, although occasionally the antlers of two bucks may become so inextricably interlocked that the contestants die from starvation.

Fawning

Except for the two abnormal periods already mentioned, fawns are born between late May and early July—the gestation period being about 210 days. It appears that as many as 20 to 30 per cent of yearling does, which have been reared under good range conditions, will reproduce. At this age, a single fawn is born, but in older deer twins are the rule and triplets are not uncommon. *However, when a range is overcrowded and nutrition is inadequate, single fawns are the rule and twins are the exception.*

Fawns weigh from 4 to 7 pounds at birth and are able to stand within 24 hours. They do not follow the

mother for the first few weeks, but remain where they are placed in the leaves or grass until the doe returns at "feeding times." Within a month, or less, the fawns may begin to nibble at green material and follow the mother for short distances. Although fully weaned by early fall, they will stay with the parent throughout the winter unless separated by accident or death. The reproductive responsibilities of bucks end with fertilization, and they spend the spring and summer in groups of two or three apart from the does and fawns.

The protective natal coat which blends so admirably with sunshine-blotched leaves is retained until late September or early October, when it is replaced by the gray coat of winter. All deer shed semi-annually—to a red summer coat in April and back to the gray winter pelage in September. The red summer hair is shorter, sparser, and of a smaller diameter than the hollow, air-filled gray of winter. These hollow hairs provide efficient insulation against cold and a buoyancy to the animals when swimming.

Food Habits

The food habits of Pennsylvania whitetails have changed greatly within the past 40 years. It is no longer a case of the deer choosing the browse they most prefer, but, instead, being forced to eat anything and everything to survive. *It has been found repeatedly that where deer are abundant certain plant species may be heavily browsed, but on areas where deer are only common to scarce these same species may be almost or entirely untouched. Also, because of over-browsing, some of the most palatable and nutritious species may have been eliminated from parts of the range, and the deer, through the effects of their own voracious appetites, have had to substitute less desirable trees and shrubs in their diet.* When browse was plentiful, the tough fibrous twigs of the oaks, beech, and other similar woody plants were practically untouched, but today these same trees have become important browse species in some regions. Only in recent years has the Hercule's Club been utilized by deer, and now the bark is stripped as high as the deer can reach. This plant is becoming increasingly scarce on the deer range.

To name all of the plant species browsed by deer would mean presenting the reader with an almost complete check list of the native and introduced plants of the state. Bailey (1928) in speaking of the Pennsylvania deer herd said: "From life-long observations on the food habits of deer over practically all of the United States, I am aware of their varied food habits, but never before have I found them in one locality feeding on so many different kinds of vegetation." Almost any plant may be browsed or grazed to a greater or lesser extent sometime during the year, particularly when natural food is scarce. However, there are certain foods which deer will eat in preference to others when these are available.

Clepper (1931) listed 110 woody plant species browsed by Pennsylvania deer. Those which were browsed heavily included several exotics and the following natives: red pine, pitch pine, short-leaf pine, white pine, hemlock, white cedar, yew, sassafras, gooseberry, wild currant, witch hazel, apple, mountain ash, wild black cherry, sumac, red maple, sugar maple, striped maple, wild grape, basswood, Hercule's Club, dogwoods, willows, both aspens, sweet fern, smooth alder, beech, chestnut, white oak, chestnut oak, scarlet oak, scrub oak, American elm, rhododendron, laurel, arbutus, teaberry, huckleberry, blueberry, white ash, honeysuckle, viburnums, and elderberry.

In spite of this impressive list and



The fawn's protective spotted coat is retained until late September or early October when it is replaced by the gray coat of winter.

in spite of the fact that all were browsed heavily, it is known that some plants included within the list are not preferred foods or even nutritionally desirable. Also, other trees and shrubs which are known to be utilized in quantity by deer are not mentioned.

The work of Forbes and Bechdel (1931) showed that both laurel and rhododendron have a minimum value as food for deer, and that animals placed upon this diet alone would lose weight rapidly and die within a short time unless some supplemental food was offered. Most of the native conifers seem to be less nutritious than many of the better hardwood species and serve mostly as "filler" during the shortages of winter.

Mast, such as acorns and beechnuts, add to the fall and winter diet and are especially valuable as a source of protein and fat. A heavy acorn crop often permits the deer to enter the winter with a fair amount of fat stored over the rump and around the kidneys and this aids considerably in survival during the winter months. The loss of the chestnut reduced the total food-producing capacity of the forests and consequently reduced the carrying capacity of the range.

As the browse became badly depleted in the forests because of overbrowsing and the maturation of the timber, the deer were forced to turn to agricultural crops to survive. It is only when natural food as found in the forests is insufficient that deer are driven into the fields, but, when once educated to eat farm crops, deer may alter their normal diet to include these items even if natural foods again become abundant.

Predation

Because of its size, the whitetail deer has few natural enemies in Pennsylvania. Probably stray dogs are most destructive to adult deer, and foxes may lead in the killing of fawns. So few wildcats are left in the state that it is not unlikely that their removal of small, weak, and diseased individuals may have a beneficial effect upon the prosperity of the herd. Because bears are hibernating during the season when deer could be caught and killed by these animals, their predatory activities upon deer are believed to be of little consequence.





HISTORY OF THE WHITETAIL IN PENNSYLVANIA

THERE can be no question but that the vast stretches of virgin forest in Pennsylvania at the time of the first colonization supported far fewer deer than the second-growth forests of today. In fact, the present-day deer hunter probably would be greatly perturbed by a similar number. It is altogether likely that more deer are shot in one day of an antlerless season in Pennsylvania than were killed in five or more years by the early Indians over the same area.

During the late 1800's and early 1900's, the whitetail had been nearly extirpated from the state. It was possible to walk for days through the mountains without sighting a single track in the snow, and when someone was lucky enough to kill a deer it became front-page news. Today, deer can be found in all 67 counties of the state and, unless an unusually fine specimen is killed, even the next-door neighbor may not be interested enough to ask to see it.

The first step taken by the Game Commission in an attempt to restore the whitetail to a reasonable degree of abundance came in 1897 when market hunting, the use of dogs for hunting deer, and killing deer at salt licks were outlawed. Beginning in 1905, refuges were established in various parts of the state and these were stocked with deer bought from Michigan, Ohio, Kentucky, Maine, New Jersey, North Carolina, New Hampshire, and Pennsylvania. From 1906 to 1924 nearly 1,200 deer were released in the mountains, and of these nearly half were bought from dealers in Pennsylvania.

In 1907 the Buck Law was passed which prohibited the taking of antlerless deer. Although the law was originally intended as a measure to make deer hunting safer and to increase the number of breeding females, and was probably a wise management tool at the time, within twenty years it became one of the greatest stumbling blocks in the way of sound deer management. The sportsmen of Pennsylvania fought bitterly against the Buck Law when it was passed, and fought just as bitterly twenty years later when an attempt was made to legalize the killing of antlerless deer. Originally the Buck Law stipulated that any male deer with visible antlers could be shot in season; later the regulations were changed so that the antlers had to be at least two inches long; then four inches long; still later six inches long; and finally two or more points to one antler as it is today.

Range conditions at the turn of the century were ideal for the almost unbelievable growth that the herd was to make. It was nearly certain that, with a reasonable amount of protection, deer would have staged a highly-satisfactory comeback without the Buck Law. This measure merely speeded the inevitable. At this time the forests of the state had been newly cut and the mountains were covered with brush which provided the deer with a maximum of food and cover. The few deer which were living at



that time found browse of the highest quality in unlimited quantity. Under these optimum range conditions, the herd skyrocketed within a few years from a mere handful to nearly a million animals. Within twenty years the Game Commission had the unique experience of being faced with two problems exactly opposite in character —too few deer in 1905 and too many deer in 1925.

This pyramiding of numbers can best be demonstrated by presenting the annual kill figures. Table 1 gives the kill figures from 1915 to the present for antlered bucks and antlerless deer. It was estimated that less than 200 deer were killed over the entire state in 1907, but in 1940 over 186,000 fell before the hunter's guns, and this figure did not include other thousands killed by motorists on the highways, by farmers for crop damage, and by poachers. Annual kill averages based upon five-year periods since 1915 show that there has been a constant, and almost miraculous, increase in numbers with no tendency toward a leveling off until the present five-year period (Figure1).

This tremendous herd created management problems never encountered before by professional wildlife men, and a great amount of research was necessary before the underlying causes of these problems could be determined and counteractive measures could be suggested. The next portion of the report will outline these problems and the research which was conducted to find solutions to them.

Table 1. Legal kill of deer in Pennsylvania from 1915 to 1949 inclusive

Year	Legal Bucks *	Anterless Deer **
1915	1,287	0
1916	1,732	0
1917	1,725	0
1918	1,754	0
1919	2,939	0
1920	3,300	0
1921	4,840	0
1922	6,115	0
1923	6,452	8
1924	7,778	126
1925	7,287	1,029
1926	11,646	1,295
1927	14,374	0
1928	0	25,097
1929	22,822	0
1930	20,115	5,979
1931	24,796	70,255
1932	19,724	0
1933	20,480	0
1934	21,137	0
1935	23,802	46,668
1936	18,084	0
1937	39,347	0
1938	0	171,662
1939	49,106	14,581
1940	40 995	145,580
1941	19.271	0
1942	30,860	0
1943	23,931	14,951
1944	28,411	0
1945	24,575	1,085
1946	31,110	4,209
1947	31,475	63,569
1948	33,608	0
1949	46,602	84,121
Total	641,480	650,207
*Grand Total		1,291,687

*Two or more points to one antler beginning in 1923.

**About one male to every four females.





MANAGEMENT PROBLEMS AND RESEARCH STUDIES

COINCIDENT with the phenomenal increase of the deer herd from 1915 to 1940 was the change in the forests of the state from a "brush stage" to a "pole stage." This natural growth resulted in an ever-diminishing food supply for the herd, even though, at the same time, the increasing number of deer required more and more food to survive. The reduction of natural browse is caused in two ways as forests mature: (1) by simply growing out of reach, and (2) by forming a closed canopy which shades out and kills many of the shrubs and herbaceous plants beneath. Since the timber crop has a much greater value as a natural resource than the game crop on most land, it would be highly impractical and indeed foolish to attempt to prevent the maturation of the forests by burning or cutting merely to preserve the deer herd at an exceedingly high level.

What Is Carrying Capacity?

This loss of food as the trees become 20, 30, or more feet high adversely affects the carrying capacity of the range. Many readers will shy at the term "carrying capacity" and may call it a "meaningless technical term used by wildlife men to confuse the average sportsman." Actually it is a simple term which should be familiar to any hunter, rancher, or farmer. It merely refers to the number of animals that can be supported upon a certain area of land. For instance, a farmer knows that he cannot expect ten acres of pasture to keep a hundred head of cattle fat and well-fed. He knows that if he puts too many cows on this ten acres he will have to give them supplemental feed at the barn or expect them to lose weight and give less milk. Also, he knows from experience that too many cattle will overgraze the grass and permanent damage may result and then his pasture will support fewer cattle than before. This is carrying capacity. Field research has shown that, if food conditions are ideal, as when a hardwood stand is in the brush stage, as few as eight to ten acres may support one deer. However, as the brush becomes larger, and less browse is available, it may require 25 acres of land to feed one deer, and in large timber where the forest floor is nearly bare, a deer may not find sufficient food on 50 to 100 acres the year around.

So, in the same manner as a western rancher has to determine how many cattle he can raise on the land he owns or controls, the wildlife manager must decide how many deer can be supported by the forests of the state. *Unfortunately, the herd has been maintained above the level of the true carrying capacity since the early* 1920's.

Reduction of Total Carrying Capacity

It has been mentioned already that when too many cattle upon pasture land cause permanent damage from over-grazing, the same acreage will support fewer cows than before the mistreatment occurred. The same thing holds true for the deer range. Aldo Leopold, Professor of Wildlife Management at the University of Wisconsin, who before his death in 1948 was recognized as one of the world's outstanding wildlife technologists, made a deer survey of the entire United States and reported that 30 of the 48 states were faced with deer problems. For all 30 of these states he made the following statements:

"Starvation occurs because these overcrowded deer kill their natural food plants by overbrowsing. *These plants are then replaced by plants of little or no food value.*

"After the pyramid-to-starvation cycle has run its course, *the (carrying) capacity of the deer range is estimated to be from near zero to one-half of its normal capacity.*

"Reduction of the herd is the only way to prevent a tragic shrinkage of both the herd and its range.

"The only satisfactory way to accomplish a reduction is to shoot female deer."

No finer example to illustrate the truth of these statements can be found than the poignant lesson in conservation blindness provided by the history of the Kaibab Plateau herd. After almost complete eradication of mountain lions, wolves, and other natural enemies of the deer from the Plateau, the herd began to increase at a rapid rate. The first warning of over-population in 1918 was unheeded and by 1924 the herd of 100,000 was suffering extreme mortality from malnutrition. By 1931 only 20,000 were left and by 1939 a mere 10,000 deer were able to survive on the entire area. It was estimated that 90 per cent of the carrying capacity had been lost by over-browsing during the years of over-population, and that if control had been initiated in 1918 the herd could have been maintained at 30,000 head rather than the pitiful 10,000 left after the irruption.

Speaking specifically of Pennsylvania, Dr. Leopold said: "In 1931 the Pennsylvania herd was estimated at 800,000 and the carrying capacity of the range at 250,000. *The several doe*

"Starvation occurs because these overcrowded deer kill their natural food plants by overbrowsing."





Pole stage timber offers little or no food for deer. Where could a whitetail reach the required buds and twigs in the pole stage forest shown here?

seasons prevented a serious die-off, but not before thousands and thousands of acres of good range was spoiled." He estimated that 50 per cent of the total range in Pennsylvania had been depleted.

"But not before thousands and thousands of acres of good range was spoiled." Think of the implications of such a statement by an unbiased observer who is recognized as an authority in the field! It is bad enough that thousands of acres have already been spoiled, but, even worse, this destruction is continuing unabated and more and more thousands of acres are being destroyed at the present time.

How is the range spoiled when the carrying capacity is exceeded? The answer is simple! It might be well to explain first that deer are normally browsing animals instead of grazing animals. That is, they prefer and require the succulent twigs, leaves, buds, and bark of woody plants for health and growth and eat a comparatively small quantity of herbs and grasses unless forced to it by browse shortages. Because there is always an abundance of green forage and new sprout growth during late spring, summer, and early fall in Pennsylvania, there is seldom a food deficiency during these seasons, but during the colder months when deer must depend upon twigs, buds, and bark for sustenance there may be a decided shortage. During the coldest part of the winter, particularly if snows are deep, deer will move from the tops and sides of the mountains into the sheltered valleys and spend the remainder of the winter there *even though many may starve because of a lack of food.* Because of this "yarding" habit, the winter range is greatly restricted and may constitute only a fraction of the warm-weather range. Thus, the food problem may be confined to 3 or 4 million acres of forest land during



Good browse conditions are found when the forest is in the sapling or sprout stage, when young trees are abundant and within reach of the deer. (Above—effects of bulldozing.)

midwinter instead of the 10 to 15 million acres occupied during the warmer months. If there are 500,000 deer in the state all crowded onto 4 million acres, this means a population of one deer for each 8 acres for about 3 months. Even with the browse supply at a maximum, the land area could barely support this concentration. After a few years of over-crowding and over-browsing, the smaller deer begin to die on these concentration areas, and during especially severe winters such as that of 1935-36, thousands and thousands of deer can be found dead and dying from malnutrition or starvation. During the 1935-36 winter it was possible to count from 50 to 100 dead deer while walking for a mile or less along some of the state's mountain streams. Today, nine out of ten of these valleys are "eaten out," and they have become death traps for the deer which remain. *To permit animals to suffer in this manner and to permit this waste of a natural resource is surely not judicious management!*

Almost without exception, the carrying capacity of these yarding areas just mentioned is near zero. The thousands and thousands of acres of spoiled range mentioned by Leopold referred almost entirely to these wintering valleys. But what is happening to the browse supply on other parts of the range? It, too, is rapidly being stripped and peeled of every vestige of succulent browse. Nearly all palatable shrub species within easy reach of the deer have been killed back, and many species have been nearly eradicated. The beautiful hobblebush or moosewood *Viburnum alnifolium* Marsh (Gray), formerly abundant in the mountains of Pennsylvania, is now a comparatively rare plant. As long as the population remains above the carrying capacity, the amount of available browse will decrease each year, and the land will support fewer and fewer deer. As this

shortage becomes increasingly acute, the deer die from malnutrition and there is a gradual reduction of the population. It is then that many hunters place the blame upon the Game Commission and say that the last "doe season" ruined the hunting in their sections. *Without food, deer or any other animal cannot survive. With or without an antlerless season there is bound to be a reduction of deer upon such areas. And once the food is gone, the deer cannot nor will not increase again even if given complete protection until such time as the browse supply is restored.* Unless the numbers of deer are controlled in accordance with the food supply, they literally "eat themselves out of house and home" and the carrying capacity can, and often is, reduced to almost nothing.

From past experience it could be predicted that, if the Pennsylvania deer herd were given complete protection for a period of ten years and no deer were cropped whatsoever, at the end of this time the browse supply would be nearly completely destroyed, the carrying capacity would be near zero, and no more than a few, degenerate, diseased individuals would be left on the primary range. *It is probable that deer could be eradicated more quickly from the state by providing complete protection than by removing all protection and permitting them to be killed at any time and in any manner.*

Beside the decrease in total amount or volume of food that can be produced by the land when deer are over-abundant, there is also a reduction in the quality of the food produced. It is only natural that the deer will browse the most palatable and most nutritious plants first and hardest. If new sprout growth appears or if a seedling breaks through the ground, either is eaten almost immediately. Gradually these desirable species have been killed and have been replaced by far less nutritious and palatable species. On many areas the normal diet of the whitetail has been greatly changed and, even though they may still be ingesting a large quantity of browse, many essential vitamins and other food substances may be lacking. So, the reduction in the food supply may be qualitative as well as quantitative, and this may just as effectively limit the carrying capacity of the range and the health and size of the deer occupying it.

Reduced Populations of Certain Small Game Species

Most deer hunters also hunt small game and are as much interested in the welfare of rabbits and birds as they are in that of the deer. For this reason, hunters should know how an over-abundance of deer can destroy the habitat of certain small game species and cause a marked reduction in their numbers.

The cottontail is probably first to go when a range is over-browsed. There is a direct competition for food, and the destruction of ground cover by deer leaves the cottontail vulnerable to predation. Deer hunters have only to think of their own hunting territory to realize that in most places they will see more deer than rabbits during a day's hunt. Over much of the mountain deer range, rabbits have been nearly extirpated. Many of these same forest areas supported high cottontail populations 30 or 40 years earlier.

At the Loyalsock Wildlife Experiment Station in Lycoming County, about 50 deer were placed in a 50-acre experimental pen during the spring. This tract had always contained excellent rabbit cover, and a large number were live-trapped annually for restocking upon public shooting grounds. There appeared to be little change in the rabbit population the

first winter, but by the second winter the natural browse was gone, and, although most of the rabbits apparently moved out of the area, a very few remained. These existed by barking trees up to eight inches in diamter, including basswoods, soft maples, black alders, witch hazels, and the heavy butts of a number of grape vines. This browsing was decidedly unusual and undoubtedly resulted from the rabbits' desperate attempts to prevent starvation. *The third winter no rabbits occupied the inclosure.*

In the north-central part of the state an area comprising about 1,200 acres was enclosed within a deer-proof fence. At this time the estate contained no deer and the rabbits prospered and the overseer reported being able to count 20 to 30 cottontails on the one-mile length of road nearly any evening. Then a few deer were released within the inclosure, and for the first two or three years the rabbits appeared to be holding their own. Then, as the deer increased, the cottontails began to disappear until finally the deer reached a saturation point where even they had to be fed artificially. At that time the overseer reported that for six weeks at a time he would not see a single rabbit on the same stretch of road. During the entire period there was no hunting of any kind within the inclosure.

Squirrels, depending mainly upon the mast crops (acorns, beechnuts, and various hard-shelled nuts) for food, are often hard-pressed to find sustenance to hold them over the winter and early spring, because by midwinter the deer may have eaten nearly the entire supply.

Ruffed grouse, wild turkeys, and varying hares must be included among the small game species which cannot compete successfully with the white-tailed deer. When the range is overbrowsed, much of the smaller vegetation necessary for protection against predators, for nesting, and for a large portion of the food supply is removed. There is also the more direct competition for acorns and other mast crops. Wild turkeys are not so seriously affected as the grouse be-

The cottontail rabbit is probably the first to go when a range is overbrowsed.



cause they have fewer natural enemies and are therefore more tolerant to open timber.

The hunter must decide whether he wants high deer populations at the expense of other forest-dwelling game or whether he wants to have reasonable numbers of both.

Decreased Forest Reproduction

The restriction of natural reproduction of certain desirable forest tree species by deer has already been mentioned. The normal second-growth forest should contain all stages of growth from tiny seedlings to trees representing the maximum age of the stand. When the larger trees are cut for timber, chemical wood, or paper wood, the growth of the saplings and seedlings is greatly accelerated and these produce the next crop of marketable timber. However, because of the destruction from over-browsing, this reproductive growth is lacking or is present in insufficient quantity, in many cases, to reforest the land adequately. Also, stump sprouts are clipped as fast as they appear on the more palatable species, and reproduction by this method is greatly reduced.

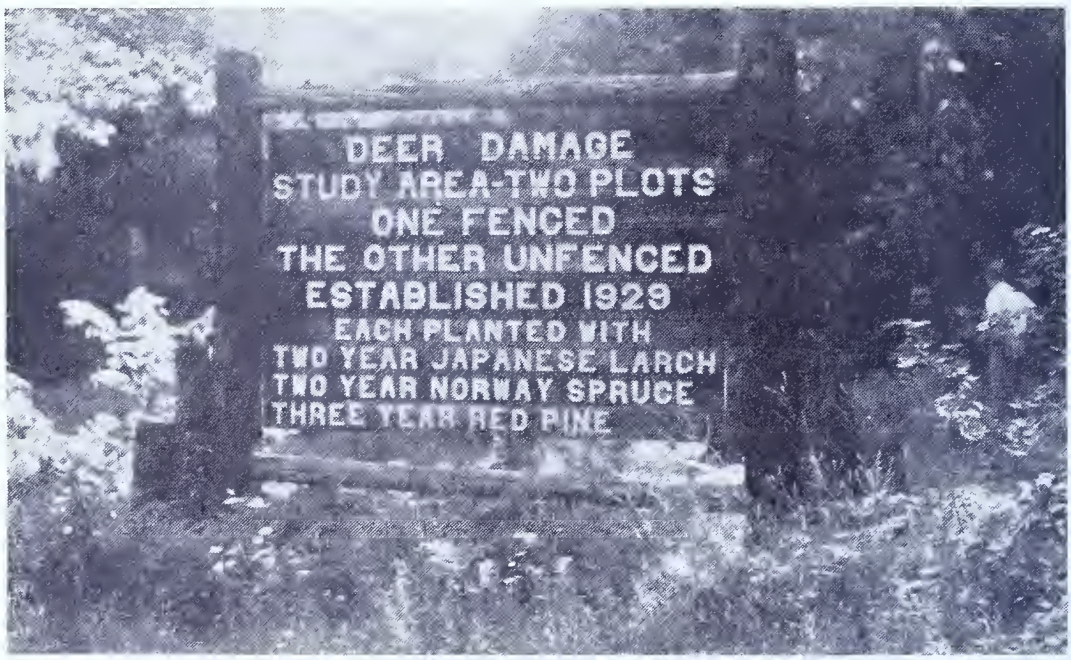
Small-scale lumbering is particularly dangerous because the underfed deer of the surrounding territory flock into these small clearings and eat nearly every new shoot which appears. Only the hardiest or least palatable species can survive under these conditions, and the new growth may have far less potential market value than that just removed. The same unfortunate occurrence follows forest fires, and, when the same region is burned several times in a few years, it may partially revert to prairie grassland. Certain sections in the northwestern part of the state are now no more than 50 per cent forested with the intervening spaces occupied by grass and bracken fern, and one or two more fires on the same

Table 2. Reduction of the carrying capacity of the range by overbrowsing.

THE NUMBER OF WOODY STEMS BETWEEN ONE AND FIVE FEET IN HEIGHT INSIDE AND OUTSIDE FENCED AREA

Species	No. of stems on ¼ Acre—Inside Fence	No. of stems on ¼ Acre—Outside Fence	Difference
Laurel	945	486	459
Sassafras	401	10	391
Chestnut	117	73	44
Aspen	35	0	35
Red maple	49	15	34
Chestnut oak	14	10	4
Red oak	2	0	2
Cucumber	1	0	1
Ilex (holly)	57	1	56
Witchhazel	63	41	22
Huckleberry	36	16	20
Maple leaf viburnum	6	1	5
Azalia	68	6	62
Gooseberry	1	0	1
Honeysuckle	2	0	2
Raspberry	1	0	1
Total	1788	639	1149

From McCain, 1940



Studies made by enclosing small tracts within deer-proof fences have demonstrated the destructiveness of an uncontrolled deer herd upon natural reproduction and artificial plantings.

areas may temporarily terminate the timber productivity until the deer are removed and the land is replanted.

The reforestation programs of the Department of Forests and Waters, the Pennsylvania Game Commission, many industrial concerns, and private individuals have failed in regions where deer are abundant. The survival of 1,600,000 seedlings planted by the Game Commission to provide food or cover for wildlife was checked, and only 28 per cent were living at the time the survey was made. Most of these were found on agricultural areas somewhat removed from the true deer range. Studies made by enclosing small tracts within deer-proof fences have demonstrated the destructiveness of an uncontrolled deer herd upon natural reproduction and upon artificial plantings. One study revealed that 91 per cent of red pine stock had been killed on the unfenced area while only 11 per cent had died from frost and other causes inside the fence. Even the surviving pines at the time of the count on the unfenced tract were badly browsed and all were expected to succumb within a short time. Stem counts were just as revealing and a table from studies made in the Allegheny National Forest (McCain, 1940) is presented (Table 2).

The lumber industry has a potential value of many hundreds of millions of dollars, and thousands of men find full or part-time employment working in the woods or with wood products. *To sacrifice this indispensable natural resource and to jeopardize the future of the lumber industry merely because a few shortsighted, uninformed hunters feel that a reduction of the herd will ruin their sport is not far from criminal, particularly when, as will be shown later, a reduced number of deer would actually improve the hunting and save the forests from destruction.*

Crop Damage

Another common symptom indicating that the carrying capacity of

the range has been exceeded is that of agricultural crop damage. When the forests cannot supply sufficient food for the number of deer occupying them, then these deer have no other recourse except to turn to agricultural crops for additional sustenance.

It is difficult for the average city hunter to realize that crop damage is an important considertaion in deer management. He is likely to be unsympathetic because he does not know the extent of the economic loss suffered by many landowners, and when he does hear stories concerning property damage he is inclined to believe that they are greatly exaggerated. Deer damage may be quite variable in its degree of severity—it may be no more than the trampling of a few stalks of grain or it may be the complete destruction of a ten-acre field of buckwheat. Orchardists, truck farmers, and even the home gardener may suffer along with the regular farmer. Deer have learned to dig potatoes, to tear corn shocks apart, and to eat nearly anything that can be grown in a garden with the possible exception of onions.

When investigating deer damage complaints, the game protector will often have a farmer's wife burst into tears while telling of their struggle to live—hardships resulting from crop loss due to excessive deer damage. At best a farmer can hope to make no more than a meager living from marginal land—and, when his entire buckwheat crop may be lost, much of his winter's supply of potatoes dug out and eaten, and his truck patch ruined, this loss may mean the difference between success and failure. Many "hill farmers" have been driven from their land because they could no longer compete successfully with the deer and make a living for their families.

The very practical, unsentimental hunter will say that it is a good thing to force the abandonment of this marginal land because the people cannot make a decent living from it anyway, but many of these people are happy with their lot and ask nothing better from life. *Who is to judge whether one man's sport is worth more than another man's peace and contentment?*

Of more direct concern to the hunter is the fact that many thousands of

Scenes such as this are common to farmers in areas of Pennsylvania which hold too many deer.



deer, including magnificent bucks, are killed for crop damage each year Individual farmers have been known to kill upwards of 100 deer in a single growing season. These should have provided recreation for nearly 100 hunters had they been harvested during the previous hunting season! These men do not want to kill deer in large numbers on their farms because it is time-consuming, expensive, and sometimes wasteful, but they are driven to it in a desperate attempt to save their crops and to live. Most of these farmers are tired of this ceaseless killing and tired of venison!

Abnormalities of the Deer Themselves Caused by Malnutrition

(1) Reduced body size. It has been mentioned already that because the carrying capacity of the range has been exceeded, both in the past and at present, there is likely to be an insufficient quantity of food for proper growth and health at least during some periods of the year. Also, because many of the most desirable food plants have been nearly eliminated by the deer, there is probably a qualitative deficiency of food as well, which means that the deer may not be getting enough of the essential minerals, vitamins, fats, and proteins for proper growth and health.

It is known from experiments at the Wildlife Experiment Station and from field weight studies over a period of years that the average body weight of deer has been retrogressing steadily for the past 20 to 30 years. Before deer became excessively abundant, and when food was still available in large quantities, antlered bucks would commonly weigh over 200 pounds hog-dressed with an estimated average of 150 pounds or more. Weights taken by the research personnel over several seasons prior to 1941 showed that the average legal buck then weighed only about 105 pounds with many as low as 80 to 90 pounds. The largest deer among the several hundred weighed during these field studies tipped the scales at 196 pounds hog-dressed. The next highest weighed 177 pounds and only a very few exceeded 150 pounds. The largest adult does weighed 130 pounds or less hog-dressed and averaged between 70 and 80 pounds. Fawns of the year killed during the season averaged between 40 and 50 pounds with one individual as light as 18 pounds.

Experiments with fawns held in pens revealed that when these young animals were improperly fed during the first winter (which would be typical of much of Pennsylvania's deer range at present) they became stunted and never attained the size of the well-fed control animals even though later they were given a maximum of good food.

Fawns, taken alive in the wild from areas where adult bucks were averaging about 105 pounds hog-dressed and reared in captivity at the Experiment Station on high-quality food, were found to weigh as much as 265 to 280 pounds live weight by the third year. If these figures are reduced by 21 per cent for hog-dressing, the large bucks would still weigh over 200 pounds—nearly twice the weight of the average buck reared in the wild from the same stock.

Reduced Antler Size

Antler size has followed nearly the same pattern as body size during the past forty years. The massive ten- and twelve-point racks of former years are now seldom seen, and spike bucks are becoming more and more common. *Any spike buck is an abnormalty, reflecting the over-browsed condition of the range, and "spikes" are common only when the animals are improperly nourished. That is, bucks should normally have from four to ten points the first time they produce antlers at eighteen months of age.*



Poorly-fed yearlings almost without exception will produce only spikes.

Severinghaus and Tanck (1947 and 1949) in comparing the antler size of the deer from the central Adirondack region of New York, where winter losses are chronic, with those from the southern tier counties of the state, where the browse supply is adequate, found that a startling difference in antler development exists. *On the Adirondack range, which is closely comparable to the primary deer range of Pennsylvania in respect to the paucity of good browse, only 37.8 per cent of the 18-month-old deer checked during the hunting season had two or more points to one antler. On the other hand, 85.7 per cent of the bucks of this age inspected in the Southern Tier were legal according to Pennsylvania standards. These investigators also found that this 18-month age group provided 78.1 per cent of the legal bucks killed during the 1948 season in the Southern Tier counties.* It is obvious from a study of these figures that, the poorer the food supply, the fewer legal bucks there will be for harvesting during the hunting season.

Feeding experiments with young bucks have proved that antler size and the number of points is nearly directly proportional to the quality and quantity of the food supplied. Poorly-fed yearlings almost without exception will produce only spikes, fairly well-fed animals usually will have a total of two to four points, and well-fed animals may have as many as 8 to 10 points.

It has also been determined by experiment and observation that poorly-fed deer will often shed their antlers in November and early December instead of holding them until the normal time from February to April. This means that many hundreds of otherwise legal bucks are "baldheaded" during the buck season, and the numbers of deer available to the hunters are decreased by just that many.

Reproductive Abnormalities

When adequately nourished, adult does will normally give birth to twins or triplets. Most Pennsylvania does do not reproduce the first year, and will seldom have more than a single fawn the second year. If range conditions are nearly ideal, it appears that as many as 30 per cent or more of yearling does may fawn, but in Pennsylvania it is believed that a very small percentage, because of nutritional deficiencies, reach the size and sexual maturity necessary to breed at six to seven months of age.

Some years ago when deer were less abundant and browse more plentiful, most does would be seen accompanied by twin fawns. Today, twins are the exception, and single fawns are the rule. Many does do not reproduce at all, either because they remain unbred or because they lose their fawn during or following the "crisis period" of February and March. It has been found also that the greatly unbalanced sex ratio (as many as 6, 8, 10, or more does to each adult buck) has resulted in some does remaining unbred following the regular rutting season. It is estimated that









FORM BB-501
300M-6-49

SUBJECT: Deor Investigation

TO: Thos. D. Frye
Executive Director

FROM: Robert D. McDowell, Chief
Wildlife Research Division

Below is a summar
in Potter County, Pleasant

We checked two m
two miles, on March 27 and
22 were fawns; 4 were matu

Of the 4 does,
does had only one fawn, o
not pregnant, one was an
The other was a yearling

All deer were
examining the marrow of
pathological conditions
nasal botflies. A few

These animals
with hemlock clumps.
immediately adjacent t
made in January and Fe
deer.

Animals exa
employees), poor brow
in their stomachs.

The deer w

On the sam
3 dead fawns in a r

COMMONWEALTH OF PENNSYLVANIA

March 30, 1950



ur findings of deer conditions
Township, State Game Lands No. 59.

stream in Fish Hollow. In these
found 26 dead and dying deer —
, 3 yearlings, 1 older.

were carrying young. Both these
ck and one a doe. Of the 2 does
oe that had fawns the previous year.
t had never had fawns.

ng from malnutrition as proven by
ur. No animals were suffering from
re were no heavy manifestations of
re found in very small numbers.

ound in a sheltered valley, dotted
als were all found either in, or
ings. It is evident that cuttings
will not maintain a large number of

ontained corn (placed by Game Commission
uce (from roadside plantings) and grasses

t noticed dying on March 10.

Game Lands, in Weimer Hollow, we found
utting.



Some does may actually not meet an adult buck during their normal breeding period.

there is only one buck of breeding age for each 200 acres of mountain land. For this reason, some does may actually not meet an adult buck during their normal oestrous cycle. It has already been explained that this scarcity of breeding bucks may create abnormal fawning periods during January and September. Fawns killed during antlerless seasons weighing as little as 18 to 25 pounds hog-dressed are September-born.

The important consideration here from a management standpoint is that 50 well-fed does will produce as many, and perhaps even more, fawns as 100 poorly-fed does.

Winter Mortality

Mother Nature has methods of her own for managing her many charges. Sometimes her methods appear to be hard and cruel, but she accomplishes her purpose without hesitation, argument, or legislation. When any animal population exceeds its food supply there is always a reduction—sometimes only enough to correct the condition and other times a sweeping, terrible decimation which may reduce the population to only a remnant of its former abundance. This reduction is usually accomplished in one or more of three ways: (1) by a diminished alertness, strength, and speed caused by malnutrition which makes the animals more vulnerable to predation; (2) by a lowering of the natural resistance to disease which may result in a widespread epidemic; and (3) by starvation.

Because the more potent predators have been extirpated or controlled, comparatively little reduction is accomplished through predation and, so far, no serious disease has struck the deer of Pennsylvania. But through starvation many, many thousands have been removed from the overcrowded range in an effort to compensate for man's mismanagement. And Mother Nature exhibits her profound wisdom by taking the fawns, which would not reproduce for two seasons but would eat as much as older deer, and leaving the mature bucks and does as a guarantee of rapid and certain increase in case the environment should become more favorable.

The thousands of deer which die during severe winters, and the disgraceful waste of a natural resource, have already been described. How much better it would have been had these deer been harvested by the hunters during the hunting season! It would have meant success for several thousand who returned home empty-handed. *Even the most stubborn opponent to antlerless seasons can surely see merit in harvesting deer which are going to suffer a slow, lingering death before the winter has passed!*

Disease

Deer are surprisingly free from disease and parasites when properly nourished. Within recent years in Pennsylvania, several maladies have appeared which were formerly of little or no consequence. The nasal passages of undernourished deer may become so clogged with the larvae of the nasal bot fly that the animals will lose weight from the constant annoyance of the chewing, crawling mass and eventually die. Large ulcerated pockets in the tongue, lips, cheeks, and jaws will sometimes become impacted with finely-chewed food and, as these grow in size and the food material decays and ferments, the deer finally dies.

Certain endoparasites, such as flatworms and roundworms, are sometimes found in large numbers in the digestive tract, but it is not known whether these organisms are an important cause of mortality.

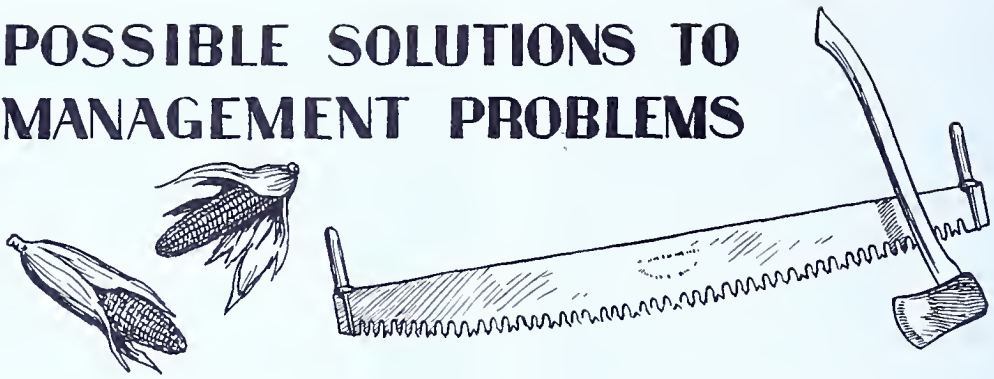
Deer are occasionally killed or found dead with large tumors distributed over their bodies. Abnormal growth of the hooves has been reported, and one specimen had upturned hooves which were fully twelve inches long.

Even though disease has not yet become a significant factor in whitetail management in Pennsylvania, it remains a constant threat. Overpopulation is conducive to disease, often in epidemic form, and there is always the possibility of some virulent pathogen striking the herd and reducing it to almost nothingness in a few short months.

Deer are occasionally killed or found dead with large tumors distributed over their bodies. Fortunately, only a few cases have been reported each year so far.



POSSIBLE SOLUTIONS TO MANAGEMENT PROBLEMS



THE problems posed by a herd which has been maintained in excess of the carrying capacity of the range have been presented. In this portion of the report, remedial measures as suggested by the professional wildlife worker, and by the deer hunters of the state, will be discussed. A sincere attempt will be made to show why certain of these suggested remedies will not work, and why others appear to offer the best possible solutions to the problems under the present circumstances and within our present knowledge of the animal. The same outline will be followed as was used in stating the management problems.

The Forest Matures

Only two possible alternatives present themselves for solving this problem: (1) to prevent the forests, or a portion of them, from maturing, or (2) to regulate the number of deer in proportion to the amount of food supplied by these forests in different stages of succession. The second alternative means a reduction of the herd well below its present level, and it is to this that so many deer hunters object.

In order to maintain the forests in peak deer production, it is necessary to either cut or burn whenever the timber begins to grow out of the brush stage into the pole stage. This means a rotation every 15 to 25 years. Let us look at some of the difficulties, costs, and possible benefits (or non-benefits) of this kind of range management.

Bulldozing

Probably the cheapest method discovered so far to remove older trees and regenerate brushy growth without burning is by bulldozing. On approximately 1500 acres experimentally processed, the average cost per acre was $11.92. It is known that about 12 acres of this kind of habitat is necessary to sustain a single deer on a year-round basis and over a period of years. This means that it has cost as much as $140 to provide food for one deer. If this area remains productive for 20 years, the cost per year would be about $7 per deer. However, it is possible that newer methods of bulldozing could reduce this cost in the future.

Although the cost at present is high, it is perhaps not the most important limiting factor. On all but the few hundred thousand acres owned by the Game Commission, the timber crop is considered to be far more valuable than the game crop. State and National Forests and privately-owned land will never be sacrificed to deer production. Even on the 850,000 acres of Game Lands, there are those who feel that timber production should not be eliminated entirely from management plans. Even if every available acre of Game Lands not too rocky nor too steep to

bulldoze was utilized, this acreage would not support more than about 40,000 deer on a sustained basis. Secondly, when relatively small areas are treated by bulldozing, deer concentrate upon these "oases" and often within a few months nearly all of the valuable browse species have been destroyed so that their food-producing potentialities are almost nil. Also, when these areas become reforested there may be a pronounced lack of certain preferred species because of the deer's selectivity, and, if bulldozed the second or third time, the total food production may be greatly diminished. Even worse, heavy browsing is likely to decrease the stem count upon the areas, and a part of this land may revert to grass or bracken fern.

Cuttings

Cuttings made specifically for deer at an even higher cost than bulldozing are likely to undergo the same retrogression of productivity as the bulldozed areas. The most practical plan at present appears to be one of harvesting the timber at regular intervals—especially as pulpwood, chemical wood, or other uses which insure a regular harvest every 30 to 40 years. Usually this permits the operation with little or no drain from the Game Fund—that is, the management is self-supporting. It is admitted that less intensive measures like this will not maintain the same high population as bulldozing or cutting every 15 to 20 years, but there is less likely to be a permanent damage to the forest, it is far more economical, and the land will continue to support good numbers of deer.

Burning

Burning has been advocated by many sportsmen as a quick and inexpensive way to regenerate deer food

Probably the cheapest method discovered so far to remove older trees and regenerate brushy growth without burning is by bulldozing. But even this method has cost as much as $140 to provide food for one deer per year.



on forest land. In order to accomplish the intended purpose, the fire must be hot enough to kill the larger trees but, when a fire is this hot, it may endanger surrounding timber land and perhaps human lives unless precautions are taken to prevent its spreading. This means preparing fire lines and having men and equipment on hand for emergencies, and all of this adds greatly to the cost. Repeated burnings over the same area may cause an undesirable loss of organic matter in the soil and a pronounced reduction of the fertility and productivity of this soil. Much land which has been burned time and again will grow little but bracken fern, various grasses, and other plants of little or no value to deer for food. *Burning is probably the least desirable method for range management.*

Harvesting the Timber

It appears that a regular timber harvest is the best method now known for managing the forested regions of the state for deer even on Game Commission-owned land. It also appears that in order to maintain the productivity of this land and to prevent permanent damage to the natural plant growth, the numbers of deer occupying these managed areas will have to be controlled at a proper level.

Reduction of Carrying Capacity

Bulldozing, cutting, and burning have already been discussed under the preceding topic. All of these operations have been suggested for increasing the food supply and the carrying capacity of the range but, as was pointed out, all have definite limitations.

Winter Feeding

Another possibility is winter feeding. This effort to supplement the natural browse in the forests is intended to save deer from starvation during the crisis period of late winter. One of the methods of winter feeding most used by sportsmen is that of cutting trees in the stream valleys in which deer are wintering and permitting the deer to browse the twigs. The deer are often so hungry that they will approach within a few yards of the workmen to feed. However, in spite of the fact that the deer respond to this kind treatment and the hunters show their willingness to help, there are drawbacks to this procedure. First of all, once a tree is cut in these valleys there is little chance for reproduction from seedlings or stump sprouts because the deer continue to eat all new growth as soon as it appears. For this reason, it is only a matter of time until there are no more trees of the right kind available for this purpose. Secondly, even with many willing hands, only a small portion of the deer range can be covered effectively, particularly when the ground is covered with deep snow and deer are most in need of help. Emergency feeding was tried on a large scale during the 1935-36 winter, when nearly $28,000 was spent for feed and labor, but deer starved by the thousands in spite of this effort.

Recently, airplane feeding has become popular. This method has the advantage of reaching the more inaccessible spots with reasonably large amounts of food but, here too, there are objections. For one thing, it is possible that a portion of the food will not be found by the deer and the other game because the force of impact may bury it in the snow. But, more important, is the prohibitive cost of feeding so large a herd even if the mechanics of covering effectively so large an area could be solved. Gerstell (1938) estimated that a herd of 500,000 deer would consume nearly 1,000,000 pounds of food per day throughout the winter at a known rate of 2 pounds of food per 100 pounds of deer a day. If only one-fourth of the herd was to be fed in



this manner, it would cost in excess of $25,000 a week for ear corn alone. Since the crisis period covers a span of eight to ten weeks, the cost of maintaining these deer would be immense.

Ear corn seems to be the most desirable food item for emergency feeding during winter. Most hay will be uneaten unless the deer are extremely hungry and, if they do eat a quantity of it, they are very likely to die from gastric disturbances. Probably more deer have been killed by feeding hay than have been saved by it! Mixed concentrate feeds are far too expensive to be used for this purpose.

An examination of the various methods suggested and used to prevent, or to compensate for, a reduced carrying capacity of the range reveals that few are workable on a practical basis, and that the ultimate solution will be a reduction of the herd to a level comparable to the carrying capacity.

Reduced Populations of Certain Small-Game Species

It is unnecessary to state that only the elimination of the severe competition by deer can restore cottontails, snowshoes, and grouse in good numbers to much of the forested land of the state.

Decreased Forest Reproduction

After years of attempting every possible means to establish plantations of forest trees where deer are abundant, the foresters have thrown up their hands and no longer waste their nursery stock in such regions. As a consequence, no extensive reforestation program is being pursued over hundreds of thousands of acres of mountain land in the state.

The elimination of valuable timber species by overbrowsing continues, and it appears that normal plant succession may be entirely disrupted following one or two cuttings or burnings. The amount and value of future timber crops may be greatly reduced by the ravenous appetites of these animals. The people of Pennsylvania can ill-afford to sacrifice this important natural resource just because a few selfish individuals want to maintain deer in such numbers that they constitute an ecological menace.

It is obvious that the only answer to this problem is reduction of the herd!

Abnormalities of the Deer Themselves Caused by Malnutrition

As suggested by the topic heading, all of the abnormalities affecting the deer herd—reduced body size, reduced antler size, reproductive abnormalities, winter mortality, and disease—are the direct result of malnutrition. Logical thinking suggests that the only cure for these physical and physiological ailments is more food of better quality. This can be accomplished in two ways: (1) by increasing the amount of food available or (2) by decreasing the number of deer so that the present browse supply will adequately nourish the remaining individuals.

The difficulties and high costs of producing additional browse or supplying supplementary food artifically have been presented. It would appear from this that the most practical means of restoring the deer to normalcy would be by herd reduction.

Some hunters suggest that the reduced body weight and small antlers of Pennsylvania deer are caused by inbreeding, and that this condition could be corrected by importing new blood (in the form of large bucks) from other states. *There is absolutely no foundation for this supposition.* In the first place, inbreeding is nearly impossible when deer are so abundant, because this can occur only when an animal population is restricted in both numbers and range. Secondly, it is recognized by geneticists that inbreeding is never harmful if the original stock is pure, and there is no reason to believe that Pennsylvania deer may be otherwise.



MANAGEMENT RECOMMENDATIONS

THE discussions of the entire list of deer management problems have consistently pointed to one thing as the most plausible and most scientific solution to all of these conservation ills—*herd reduction and control.* Many deer hunters who read the preceding statement will immediately oppose any such suggestion because they feel that the proposed herd reduction will ruin their sport. Many sportsmen visualize a wholesale slaughter followed by years and years of poor hunting. *Fortunately, the wildlife manager's meaning of herd reduction is far different from this. He wants to reduce the number of animals held over the winter when browse is at a minimum and when deer may die by the thousands. There would actually be little or no reduction of the numbers of deer available for the hunting season. Instead of ruining the deer hunting as many sportsmen believe, the wildlife manager is confident that the hunting can and will be improved by herd reduction.* How can a reduction of the herd to a point commensurate with the carrying capacity of the range improve deer hunting and actually result in higher kills? Just plain common sense and a working knowledge concerning the whitetail supplies the answer.

Before commencing a discussion of recommended management measures, one suggestion should be made. That is, that the hunters of Pennsylvania should modernize their thinking. The Buck Law was passed in 1907 because it was felt that the herd would build up faster if does were protected. This was sound reasoning, and the herd did build up to numbers far beyond anyone's expectations. In 1907, and even in 1920, it was all right to think of the doe as a "sacred cow" and to protect it with all possible enthusiasm because the herd was still growing and spreading. But for the past 20 to 25 years the deer of Pennsylvania have had "growing pains" and the need for, or value of, protecting female deer has long since outlived its usefulness in management. In fact, this misconceived idea of providing eternal protection for does has done more to spoil the deer hunting of today and of the future than any other one factor. Can any hunter still feel that we need to continue to protect does to build up the herd to even greater numbers?

If the hunter is asked why he feels does should not be shot, he will answer that without a large number of does there cannot be a large number of buck fawns, and without a large number of buck fawns there cannot be a large number of legal bucks. They theorize that the more does there are the more bucks there will be for hunting. But under present range conditions, this hopeful philosophy is unfounded and *the exact opposite is more likely to be true.*

Suppose there are 500,000 deer in the state and the true carrying capacity is placed at 250,000 head as suggested by Leopold. Let us suppose further that 200,000 of the 500,000 deer are does of breeding age. It is positively known that when the range is overcrowded and food inadequate, the normal reproduction of deer is greatly reduced. Instead of the usual twins or triplets produced by adult does, single fawns are the rule and many does are not bred at all. Thus, the reproductive rate under these conditions is less than one fawn per doe and may be placed at about .75 fawns. This would mean that about 150,000 fawns would be born to the 200,000 does in our herd of 500,000. Added to 500,000 deer already existing upon the range, the fall population could become about 750,000 if nearly all of the fawns lived. Then during a regular buck season about 30,000 males would be removed and perhaps 720,000 deer would be left to winter on the already overbrowsed range. If the winter is severe, a large percentage of the fawn crop may starve, but if the winter is mild most of these animals may live to destroy great quantities of the ever-diminishing browse supply. By spring the deer are malnourished, susceptible to disease, incapable of normal reproduction, and lack the vitality to produce sizeable antlers. Under these conditions only about 40 per cent of 18-month bucks will be legal during the hunting season—in other words only about 30,000 of the 75,000 buck fawns born will be legal to hunt the following fall. Can we afford to feed 200,000 does just to produce 30,000 bucks a year for hunting?

Now what are the prospects if the advice of the wildlife managers is heeded? Suppose we reduce our herd of 500,000 to the carrying capacity of the range which has arbitrarily been set at 250,000 deer. This means immediately that there will be twice the quantity of food for each deer. We can assume that with this better nutrition reproduction will be nearly normal and that we can expect about 1.5 fawns per adult doe. If there were 200,000 breeding does in the herd of 500,000 then there should be 100,000 breeding does in a herd of 250,000. If each of these 100,000 does bears an average of 1.5 fawns, there will be born a crop of 150,000 fawns which is exactly as many as produced by the 200,000 underfed does. Now instead of a fall population of 750,000 deer, there are only 400,000, and the buck season may reduce this to 370,000 before winter begins. These 370,000 deer, having nearly twice the amount of food over the winter, should survive nearly any kind of weather. Also, because they have been well-fed, there should be little or no evidence of malnutrition, reproductive abnormalities, disease, and the other symptoms of overcrowding. *Also, and of greatest importance to the hunters, as many as 85 per cent of the male fawns should produce legal antlers the first year.* This would mean nearly 64,000 legal bucks for the following hunting season instead of the 30,000 produced under adverse food conditions. *This is how hunting can actually be improved by reducing the herd.*

But that is not the end of the story. What will happen the following year if only a few thousand bucks are removed from our optimum herd of 250,000 animals? At the end of the second breeding season they could number in excess of 500,000 again, and all that had been gained would be lost. *There is only one permanent and truly scientific solution to the deer problem—an all-age, all-sex harvest.*

If we go back to the reproductive figures for our hypothetical herd of 250,000, it will be remembered that 150,000 fawns were produced. *The only way to maintain the herd at this*



highly desirable level would be to harvest a number of deer each year of all ages and both sexes equal to the number of fawns surviving until the hunting season. In other words, if 75,000 to 125,000 of these fawns were to survive until fall, that many deer, does and bucks, could be killed during the hunting season without diminishing the number for the following season in the slightest. If properly managed, it is altogether feasible that from 75,000 to 125,000 deer could be harvested each season, year after year, and the general size, vigor, and quality of the herd held at a much higher level than at present. And, antlered bucks should be at least as numerous, and probably more numerous, than at present, and the inveterate buck hunter should have an even better chance to kill a fine trophy than before.

Is there danger of killing more than the desired number and reducing the herd below its optimum productivity? The answer is no, if seasons are regulated properly. If the big-game tags returned by the hunters show a slightly excessive kill for one season, then a shortened season the following year should compensate for the difference and restore the herd to full productivity. Past experience with doe and buck seasons should eliminate the possibility of serious blunders in harvesting the surplus.

The old die-hards who still think it is a sin and a shame to shoot a doe will object on the grounds that does are not as sporting as bucks. These men are much in the minority. There are two or three hundred thousand hunters who have found that does are just as hard to hit, are just as smart, can run just as fast, and are just as good eating as bucks. The only reason that does appear to be easier to kill than bucks is because they are usually from four to ten does for every antlered deer in the woods. The same men who declare that they will never shoot a doe, regularly shoot female rabbits, bears, squirrels, grouse, turkeys, woodcock, ducks, and a host of other game. Is there any real difference?

This recommended harvest of both sexes is neither new nor experimental. The Canadian Provinces, Maine, New Hampshire, and many other states over the country have always shot both sexes. These states and provinces have had few of the headaches suffered by states with Buck Laws, and their herds are maintained in good numbers and in top condition. Whitetails in these states and provinces will average far heavier and carry much larger antlers than our own scrawny, underfed deer.

It is probably desirable that the hunting should be limited to one sex at a time for safety. When both sexes are legal prey at the same time, careless hunters are likely to shoot at any supposed deer and endanger the lives of other hunters. If a hunter is forced to determine whether a deer has antlers or does not have them before he shoots, there is little likelihood that he will shoot a human in mistake for a deer.

In summary, there are at least ten ways in which the people of Pennsylvania could benefit from a reduction of the numbers in the wintering herd and an annual, sustained harvest of both sexes of deer:

(1) an increased amount of recreation through a greater annual harvest;

(2) and improvement in the size, vigor, and trophy qualities of the deer;

(3) a more favorable sex ratio and increased reproduction;

(4) a decrease in the number of spike bucks and a consequent increase in the number of antlered deer with three or more points;

(5) a near elimination of winter mortality resulting from malnutrition;

(6) a decrease in the undesirable effects of over-browsing upon forest reproduction and succession;

(7) a slowing of the rate at which the deer range is being ruined by overbrowsing, and the maintenance of a higher carrying capacity;

(8) a lessening of the amount of crop damage and the number of deer killed for damage;

(9) an increase of other forest-game species, particularly cottontail rabbits, varying hares, and ruffed grouse which are adversely affected by the overbrowsed condition of the forests; and

(10) a better relationship between the sportsmen of the state, the Game Commission, and the landowners who are suffering deer damage.



AN APPEAL TO THE DEER HUNTERS OF PENNSYLVANIA



IT IS HOPED that this bulletin has given the deer hunters of the state a better insight into the complexities of whitetail management, and, with this added knowledge, that they will be instilled with a greater confidence in the conscientious efforts of the men entrusted with their sport. These men deserve both credit and the confidence of the hunters because it was through their efforts that the deer were increased from a mere handful to a herd of a million animals within twenty-five years. After this proof of their management ability, why should they be denied the privilege of directing the future of the herd? Why should hunters doubt their ability and fight management measures proposed by them?

There is an old story of the man who, because of his good deeds, was visited by a good fairy. With a wave of her magic wand she caused an immense pile of gold coins to appear and, handing the good man a cloth sack, she told the man to take all he wanted. He eagerly fell to work filling the bag and soon had it over half full. The good fairy suggested that perhaps he had better be satisfied with that much because the cloth might give way and he would lose his wealth but, in his greed, he continued to add more and more of the gold pieces. A little later, he was warned again that there was a limit to the capacity of the bag and that he should now be content. But the sight of the great pile of gold had blinded him to reason and he stubbornly persisted in taking more. Suddenly the seams parted, the fairy and gold disappeared, and the good man was left "holding the bag."

If we modernize our story and have our good, but shortsighted, man represent the deer hunters of Pennsylvania, the bag our deer range with its limited capacity, the gold pieces our deer, and the benefactor the Game Commission, is there not a close analogy? Were the deer hunters satisfied when the deer population was doubled from 1913 to 1915, doubled again by 1919, doubled again by 1921, again by 1924, again in 1927, and again and again until at its peak the herd was estimated to have increased five hundred fold? Has not the Game Commission warned repeatedly for the past twenty years that the bag contained more than it could safely hold? Have not the seams begun to break and the gold pieces started to trickle through (winter mortality)? And is there not imminent danger that the whole bottom may fall out if some of the pieces are not removed and the strain relieved?

It is for the hunters to decide whether their sport of the future and that of their children shall be based upon scientific study and management by well-trained wildlife men or whether it shall be governed by the whims, fancies, and selfish desires of the deer hunters themselves.

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DO YOU KNOW?



THE FACTS ABOUT WHITE-TAILED DEER

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LIFE HISTORY

When do deer breed?
Normally from October to December.

When are the fawns born?
Normally in May and June. The peak about Memorial Day.

What is the gestation period of the white-tailed deer?
205-212 days.

How many fawns does a doe bear?
This depends upon the quantity and quality of food available to the mother. Normally a doe has a single fawn the first time; after that twins. If food conditions are extremely good she may bear triplets. If food conditions are poor she may continue to bear but a single fawn.

How old must a doe be to bear fawns?
This, too, depends upon the quality and quantity of the food available to the doe. Research workers in New York found that 36% of fawns born in May were carrying a fawn in December of the same year where food conditions were ideal. Only 4% of the fawns in poor ranges were found to be pregnant.

Is there such a thing as a barren doe?
Due, perhaps to an injury, disease, or infertility at birth—yes. Due to old age—no. Does held in captivity have borne fawns, year after year, for 13 years. It is very unlikely that many deer live this long in the wild. Mature does not carrying young simply haven't been bred.

When do fawns lose their spots?
When they are about five months old.

Do deer change the color of their coats?
Yes. They have a short, reddish summer coat and a dark grey heavy winter coat.

Why do we sometimes see spotted fawns during the hunting season?
These fawns were not born until September. When does are not bred during the regular season, they may be bred later and bear fawns in September or December. These late fawns have little chance of surviving the winter.

How old is a buck before he is sexually mature?
Eighteen months.

How many does can a buck serve?
In our experimental pens we had a buck serve 17 does. All these does gave birth to normal fawns. Whether or not a buck could contact as many receptive does in the wild state is highly questionable.

What are the principal enemies of deer, excluding hunters?
(1) Well-meaning but misinformed persons who pick up what they think are "orphan" fawns. These fawns are not neglected. Their mothers are nearby.
(2) Wildcats and foxes may take some deer but many times that number are killed by dogs left to run during all months of the year.
(3) Fires.
(4) Disease.
(5) Starvation—the greatest of them all.

FOOD HABITS

What do deer eat?
Deer eat grasses, ferns, and other green herbaceous plants. This is called grazing. Primarily, however, deer are browsing animals. This means that they eat the tender twigs, buds and leaves of trees. Deer also rely upon acorns and nuts. These foods are called "mast". Deer also, as too many farmers know, will raid vegetable gardens, grain fields, and orchards.

What is good browse?
Browse that will permit the growth of an animal and the maintenance, or nearly so, of the body weight

during the winter. Such browse is provided by the maples, apples, white cedar, viburnums, oaks, aspen, birches (except black birch), ash, hickory, etc., in proper balance.

What are starvation foods?

Laurel, rhododendron, fir, pine, spruce, and other conifers.

How much food does a deer require daily?

To maintain itself during the winter months a deer requires about two pounds of superior browse per day for each 100 pounds live body weight.

If deer are dying of malnutrition, why doesn't the Game Commission feed the deer during the winter months?

Deer, during the winter months, require browse of good quality. To put this browse where they can reach it involves cutting or bulldozing. Both are costly and *are* being done on State Game Lands where the timber is of no economic value except as deer food. Remember, this Nation faces a timber shortage, but Pennsylvania has a deer surplus. Deer like to bed down in the alfalfa and other hays provided by well-meaning but misinformed persons. They don't eat much of it.

AGE, WEIGHT AND ANTLER DEVELOPMENT

How can a hunter know the age of a deer he has shot?

Only by tooth development. This is a highly specialized technique. Anyone interested should read Bill Severinghaus' article in the April 1949 issue of the *Journal of Wildlife Management.*

Can a hunter tell the age of a buck he has shot by its antler development?

No. Antler development is dependent upon the quality and quantity of available food. If food conditions are poor, a male fawn's "buttons" may never break through the skin. The next year this same undernourished animal may have small spikes and have only spikes or a scrubby rack for life. On the other hand, a well-fed male deer will usually never bear spikes. He may have a ten-point rack when 18 months old. The presence of a large number of spike bucks in a deer herd is an indication of poor range conditions.

Do bucks shed their antlers every year?

Yes. When shed, their antlers are eaten by porcupines, mice, and other rodents.

When do bucks shed their antlers?

In our experimental pens we found that well-fed bucks retained their antlers until May. Poorly-fed bucks lost their antlers during the winter, some of them before, or during, the open deer season. The better-fed bucks rubbed their new racks "out of the velvet" before the other bucks.

What is the record antler spread in North America?

Thirty-three and one-half inches. This buck was shot in British Columbia in 1905.

What is the record antler spread in Pennsylvania?

Thirty-two and three-quarter inches. This buck was shot by Al Prouty of Williamsport, on the Susquehanna Ordnance Grounds, where ideal brush conditions prevail, on December 5, 1949.

What governs the weight of a deer?

Age and food conditions.

What is the weight of the heaviest deer shot in Pennsylvania?

There have been heavier deer shot than our *official* record of 207 pounds indicates. Let us know of them.

What is the average weight of our legal bucks?

About 115 pounds, hog-dressed.

Where are the big bucks killed in Pennsylvania?

In the farming sections where there are interspersed woods and where there are not yet too many deer for the available food. Compare a deer from Erie, Mercer, Allegheny, Washington, Lancaster, Chester, Montgomery counties (to mention a few) with one, of equal age, from Potter, Elk, McKean, Cameron, Wayne counties (to mention a few) and see the difference. Big bucks develop where there is ample food.

PENNSYLVANIA'S DEER HERD

How many "kinds" of deer do we have in Pennsylvania?

Originally, two sub-species of white-tailed deer. But these have crossed to such a degree that it is doubtful if a "pure type" deer is now found. In our southern counties we had the Virginia white-tailed deer. The northern white-tailed deer was originally found in some of our northern counties. The main difference between these two sub-species is size, the northern deer being the larger. This factor is relative, however, depending upon available food. If a "pure" northern deer (from southeastern Canada) were the same age and were given the same food it should weigh more than a "pure" Virginia deer (from South Carolina).

How many deer do we have in Pennsylvania?

No one knows. No one has developed a census technique that will apply to a large area. However, our game protectors' observations, plus the annual kill figures, give us a fair estimate—but only an estimate—of between six and seven hundred thousand animals prior to the hunting season.

Actually it is not important to know exactly how many deer we have. The important thing is to know whether we have enough, too many, or too few. When our forests are capable of reproducing themselves; when these same forests are then producing deer browse; when a large percentage of our fawns are bearing young; when we are killing a high percentage of legal bucks that are only 18 months old; when the average weight of our deer is much, much heavier; when our bucks once more bear "trophy" racks; when farmers' crops are not devoured, wholesale, by ravenous deer; when winter starvation is a thing of the past; when all our forest-game species have sufficient food and cover; then—and only then—do we have the "right" amount of deer.

What percentage of the deer herd may be taken each year without reducing the size of the herd for the following year?

If food conditions will support a herd, that is with no starvation losses; if the sex ratio is near balance, that is one buck to two or three does; if hunters crop the deer without regards to sex or age—we should crop 33% to 44% of the pre-season herd each year. These are three big "ifs" but they must be reached, or approximated, if Pennsylvania hunters are to enjoy, and reap, the full benefit of our deer herd. To reap the maximum of the harvestable surplus should be the goal of all hunters and is the objective of the Pennsylvania Game Commission under its deer management program.

How can anyone claim that there are too many deer in any particular section of Pennsylvania when, actually, there are fewer deer there than during previous years?

Too many deer in any section means that the number of animals there exceed the present food supply and are preventing the growth of future food. As our trees mature, the closed canopy of their upper branches prevents the sun from striking the forest floor. This condition, plus a hungry deer herd, eliminates the understory of the forest, thus eliminating reforestation.

In addition, as the trees grow, the browse of their branches is carried upward beyond a deer's reach.

When the deer of a section halt, or greatly hamper, the agricultural efforts of the farmers in that section we may say that there are too many deer present.

Also, when deer, although few in numbers, present a serious hazard to motorists of an urban district we may say that there are too many deer present.

What is a "Michigan" buck?

A male deer from Michigan—and that's all. If he's from a section of that state that has good food and not too many deer he'll look like one of our Crawford, or Erie county bucks. If he's from a poor section (and deer starve to death in Michigan, too) he'll look like any buck from our poor-food areas.

Where did the "Michigan" bucks that Pennsylvania stocked come from?

Some were wild-trapped animals but most of them came from deer parks in New Hampshire, New Jersey, North Carolina, Maine, Ohio, Kentucky, Pennsylvania and Michigan. Only 417 came from Michigan; 524 from Pennsylvania. The Pennsylvania Game Commission bought, and stocked, 1,192 deer from 1906 until 1925.

Were these imported deer marked in any way?

No. Bucks all over the state have slit ears. They get split when the bucks are fighting during the breeding season.

Would the importation of mule deer increase the size of our Pennsylvania deer?

No. Mule deer and white-tailed deer belong to two different species. They won't cross.

What will increase the size of our Pennsylvania deer?

The only way is to adjust the herd to its food supply. This *should* be done by shooting the harvestable supply or it *will* be done by starvation and nobody benefits except the deer that survive.

Does inbreeding produce runt deer?

Absolutely not. If the parents are small, due to inferior food, the fawn, or fawns, will be small. If these same fawns are quickly given good food, and lots of it, they'll grow into large animals. The reverse conditions also hold true.

How can a person tell if a deer has died from malnutrition?

When a deer can no longer obtain enough food to maintain its weight it begins to live off the fat stored in its body. A deer cannot store away large amounts of fat under its skin as many other animals do, so after using up this small amount, it utilizes the fat surrounding its internal organs. If it needs more fat it then utilizes that found in the marrow of its bones. The marrow of a well-fed deer is almost white due to the fat content. As the animal absorbs more and more of the marrow fat the marrow changes in color from white, to yellow, to pink, to cranberry red. If the upper leg bone of a deer found dead in the woods is cracked open and the marrow examined one can quickly tell just how malnourished the animal was. In a weakened condition the animal succumbs quickly to pneumonia or other respiratory diseases.

Do we have any epidemic diseases in our Pennsylvania deer?

Evidently not yet. Although in 1935 and 1936 we had an outbreak of some disease (undiagnosed) in one particular section of the state.

Do deer "yard up" in Pennsylvania?

Not to the same extent that they do in some northern and western states where, during deep snows, the deer will use the same yards, usually a cedar swamp, year after year. When there is snow on the ground, when it is very cold, and when strong winds prevail our deer will move into sheltered stream valleys. These stream valleys in our northern tier woods are grown up to hemlock, laurel, and rhododendron—all starvation foods. If the adverse weather conditions continue, the deer will stay there and die there. The youngest, who cannot reach even the starvation foods die first—the larger animals last.

If the weather breaks, the deer will move out again up the slopes where they may find other foods. Evidently the deer realize that they can't afford the energy necessary to reach the slopes, or realize that even if they do there is not enough nourishment there to counteract the effects of the cold exposure. Deer can't be driven from these bottoms. The same number of deer using good weather range may be crowded into 10% of that range during bad weather. The amount of poor food in the bottoms is quickly consumed if the cold snap continues and the fishermen discover the carcasses in the spring.

Why does Pennsylvania protect the spike buck?

As a safety measure. Looking for a rack, or no rack at all, might restrain some irresponsible person from shooting at anything that moves. In Pennsylvania the movement of the brush is more likely to be caused by a fellow hunter rather than by a deer.

MISCELLANEOUS

How do deer communicate with each other?

By snorts and vocal bleats, by stamping the ground, and by use of the scent glands located on the inside of the rear leg near the hocks. The hair surrounding these glands stands erect when a deer is "talking" to another deer. Other scent glands are located at the hoof.

Can a hunter differentiate between the track of a buck and a doe?

Anyone has a 50-50 chance of guessing correctly. Look over a group of hooves at a taxidermist's and see how many you guessed correctly.

Do only bucks, or do only does snort?

Both snort. Don't ever shoot at a deer, or disregard another deer, upon the advice some "old timer" has given you regarding this matter. His school of thought has a 50-50 chance of being wrong.

Do deer trample snakes to death?

Perhaps a doe, in defense of her young, may. However, every penned deer we held, regardless of age or sex, exhibited the utmost terror of all snakes. A piece of rope, held in the hand and moved to simulate a snake, would prevent a buck from charging when a club wouldn't.

Can a deer distinguish colors?

Evidently they can distinguish between shades of colors but not colors, as such. You're perfectly O. K. in a solid red outfit.

Which of the deer's senses are the keenest?

Hearing. Air movement governs their sense of smell. Deer have very poor vision regarding stationary objects but are quick to catch motion.

LAWS

When are the seasons and bag limits determined?

Usually during the July meeting of the Pennsylvania Game Commission.

Upon what basis is the deer season established?

Upon reports and recommendations received from all the Commission's field employees and from conditions reported by sportsmens' organizations and interested individuals.

How are certain counties closed to the hunting of anterless deer?

The Game Law provides that if the Pennsylvania Game Commission receives, thirty days prior to the opening of a proposed antlerless deer season, a petition signed by enough bonafide residents of a particular county, who held resident hunting licenses the previous year or who reside upon and cultivate lands, to equal 51% of the total number of licenses issued within the county to residents of that county, the county will then be closed to the taking of antlerless deer by anyone during the prevailing season.

Any person signing such a petition who is not a resident of that county, or who is not otherwise legally qualified to sign such a petition, shall, upon summary conviction thereof, be sentenced to pay a fine of ten dollars, plus costs, or five days imprisonment.

In addition, the person circulating the petition must attach an affidavit to the petition certifying that, to the best of his knowledge and belief, all signatures and information are valid.

May a person who signs such a petition in a county hunt in that county if it is not closed, or, if it is closed, hunt in an open county?

Yes.

What weapons are legal for killing deer?

(1) Any gauge shotgun, except an automatic, semi-automatic or auto-loading type, that is loaded with single slug or pumpkin ball. Buckshot, of any size, is illegal.

(2) Any rifle, except an automatic, semi-automatic or auto-loading type, firing a center-fire cartridge with all lead, lead alloy, or expanding bullet.

(3) Any pistol, except an automatic, semi-automatic or auto-loading type, firing a center-fire cartridge larger than 25 calibre, and an expanding bullet.

(4) Any bow and arrow, but not a cross bow.

How many men may hunt deer together without filling out a roster?

Four. Five or more men must complete a roster, in duplicate. One copy must be carried on the person of the captain or leader of the party, the other copy must be posted at the camp headquarters in such manner as to be plainly visible from the outside.

When must a deer be tagged?

Within one hour after it has been killed and before it is moved from where it was killed.

When must a report of a deer killed be completed and forwarded to the Pennsylvania Game Commission?

Within five (5) days following the close of the season.

How may the carcass of a deer be transported?

(1) The carcass of a legal deer may be carried by any person, or any common carrier, within the State, if the carcass has attached thereto a card or marker, bearing in English, the name and address of the owner, his hunting license number and the name of the

county where the deer was killed.

(2) Parts of a big-game animal may be transported if *each* parcel or container bears the information, as above, plus a description of the contents.

(3) No game may be shipped parcel post except to a taxidermist. Here again the package should be marked as in (2) above. Shipment to a taxidermist outside Pennsylvania shall be legal only after a permit is obtained from the Executive Director of the Pennsylvania Game Commission.

Can a deer killed in Pennsylvania by a resident hunter be transported or shipped outside the State?

No, except to a taxidermist, after a permit is secured, or if it must be carried out of the state to reach its destination within the state.

Can a hunter sell a deer he has legally killed?

No, except the hide, or parts thereof, which must be sold within 90 days after the close of the season.

May a hunter "sight in" his rifle during the deer season?

Only at a properly constructed target protected by a natural or artificial barrier so that the bullet cannot travel more than 15 yards behind the target and only if such target is erected within 200 yards of the hunter's camp or other headquarters. A hunter may also "sight in" his rifle at a regularly established range.

May a hunter enter a State Game Refuge to bring out a deer he shot outside but which died within the wire?

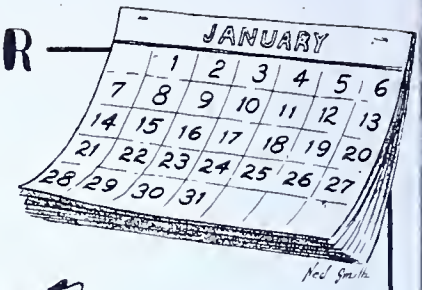
No, unless accompanied by a Game Protector.



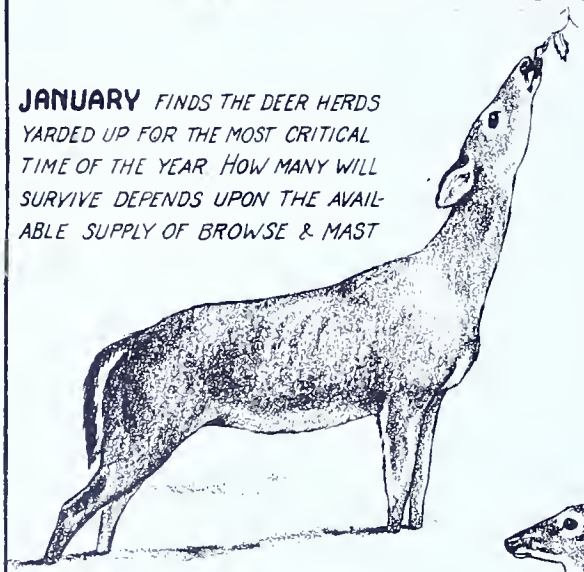
A deer camp snow scene in Pennsylvania.



THROUGH THE CALENDAR
with the
WHITETAIL FAMILY

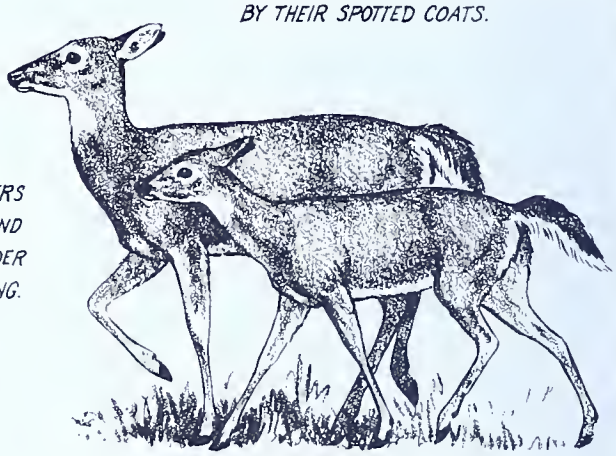


JANUARY FINDS THE DEER HERDS YARDED UP FOR THE MOST CRITICAL TIME OF THE YEAR. HOW MANY WILL SURVIVE DEPENDS UPON THE AVAILABLE SUPPLY OF BROWSE & MAST





MAY IS THE MONTH IN WHICH MOST FAWNS ARE BORN. BEDDED DOWN ON THE FOREST FLOOR THEY ARE WELL PROTECTED BY THEIR SPOTTED COATS.





JULY· THE BUCKS' ANTLERS ARE GROWING RAPIDLY, AND ARE SOFT AND THICK UNDER THEIR "VELVET" COVERING.

SEPTEMBER· THE FAWNS' SPOTS HAVE GRADUALLY FADED AWAY, MAKING THE YOUNGSTERS MINATURE REPLICAS OF THEIR MOTHERS.







OCTOBER FINDS THE BUCKS RUBBING THE VELVET OFF THEIR FULLY DEVELOPED ANTLERS.

NOVEMBER· THE BUCKS, WITH POLISHED ANTLERS AND SWOLLEN NECKS, ARE SEEKING MATES AND FIGHTING RIVALS WITH EQUAL ARDOR.

JANUARY· THE BUCKS HAVE SHED THEIR ANTLERS AND THE SNOW LIES DEEP AS THE NEW YEAR USHERS IN ANOTHER SEASON OF COLD & HUNGER.

PENNSYLVANIA

Game News



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The Story Behind the Cover



With the dying brilliance of October and the fall harvest come indications that winter is just around nature's corner. The white fingers of frost groping across the countryside to touch the pumpkins with autumn glow and the corn with ripe gold are age-old warnings that the months of scarcity are near.

Well aware that the coming season is a critical one for wildlife, the Game Commission is preparing for the time of hunger, drifting snows and sub-zero weather. Throughout Pennsylvania's small game territory men like Game Protector Mark Motter, Harrisburg, shown on this month's cover, will contact many cooperating landowners for the purchase of standing grain. Farmers like H. Seaman Lingle, of Grantville, Dauphin County, shown with his bumper crop of corn, willingly participate in this wildlife food program by leaving rows of corn standing on field edges after the harvest. They know that these natural feeding strips are heavily utilized by ringnecks, rabbits, quail and other wildlife. Moreover, these conservationists know that this practice yields the best results.

The large monetary investment in this beneficial program is based on wise conservation principles. It's a "natural" for wildlife. A few bushels of grain on the stalk, such as is presented in strips of standing corn, will attract and hold more wildlife than bushels stored in a barn or hopper, no matter how quickly the stored grain might be distributed in an emergency. Naturally a food patch located by wildlife during the fall months is remembered and used by wild birds and animals; while an emergency station, constructed on the same spot at the "zero" hour, is not likely to be found by game living close by.

In this era of clean farming and mechanical harvesters, strips of standing corn often provide the only available grain during the winter months. They may even spell the difference between life and death for our wildlife. In severe winters when deep snows and coldness dominate the outdoors for week after week, these strips provide food for wildlife on an otherwise barren and desolate landscape.

STRIPS OF FOOD AND STANDING GRAIN ARE A SALVATION FOR OUR WILDLIFE

PENNSYLVANIA
Game News

Published Monthly
by the
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JAMES H. DUFF, GOVERNOR

★

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Wildlife's Worth to Mankind

In this commercial age, when progress is measured by profit and success is synonymous with luxury, the true values of wild birds and animals are often overlooked. Throughout a country where a price tag has become a criterion, wildlife can be easily forgotten and its conservation sadly neglected.

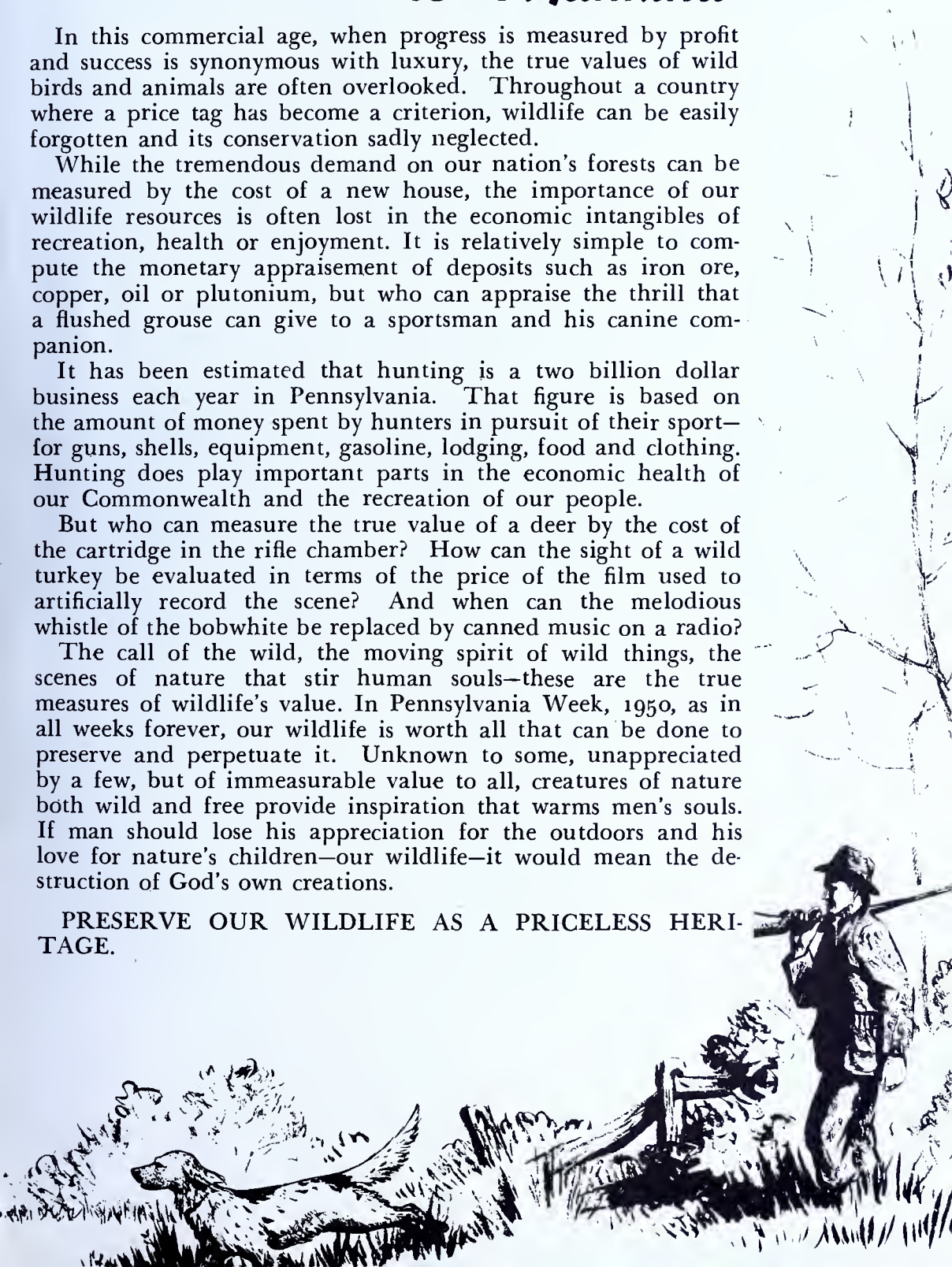
While the tremendous demand on our nation's forests can be measured by the cost of a new house, the importance of our wildlife resources is often lost in the economic intangibles of recreation, health or enjoyment. It is relatively simple to compute the monetary appraisement of deposits such as iron ore, copper, oil or plutonium, but who can appraise the thrill that a flushed grouse can give to a sportsman and his canine companion.

It has been estimated that hunting is a two billion dollar business each year in Pennsylvania. That figure is based on the amount of money spent by hunters in pursuit of their sport—for guns, shells, equipment, gasoline, lodging, food and clothing. Hunting does play important parts in the economic health of our Commonwealth and the recreation of our people.

But who can measure the true value of a deer by the cost of the cartridge in the rifle chamber? How can the sight of a wild turkey be evaluated in terms of the price of the film used to artificially record the scene? And when can the melodious whistle of the bobwhite be replaced by canned music on a radio?

The call of the wild, the moving spirit of wild things, the scenes of nature that stir human souls—these are the true measures of wildlife's value. In Pennsylvania Week, 1950, as in all weeks forever, our wildlife is worth all that can be done to preserve and perpetuate it. Unknown to some, unappreciated by a few, but of immeasurable value to all, creatures of nature both wild and free provide inspiration that warms men's souls. If man should lose his appreciation for the outdoors and his love for nature's children—our wildlife—it would mean the destruction of God's own creations.

PRESERVE OUR WILDLIFE AS A PRICELESS HERITAGE.

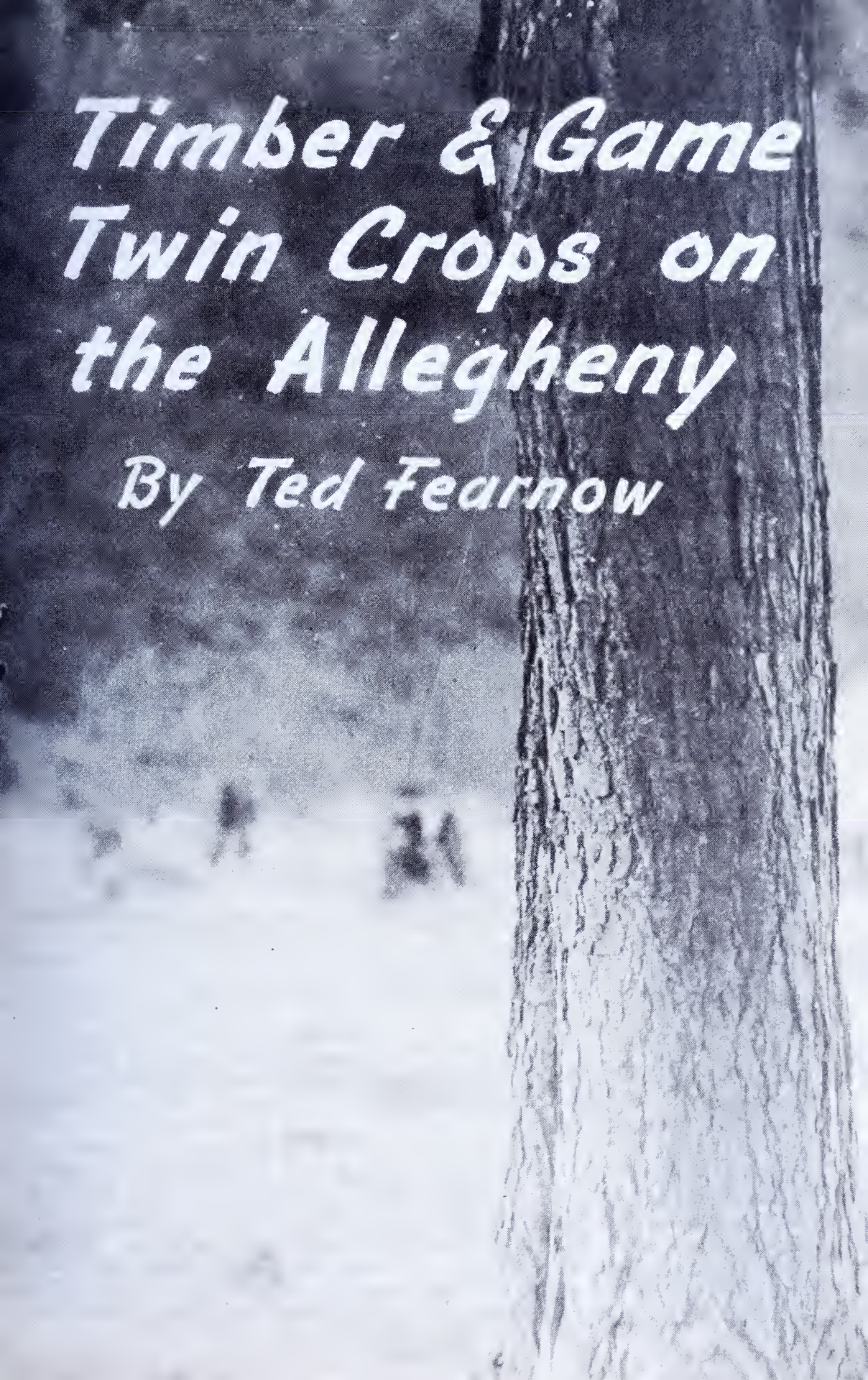


SEVERAL years ago a gifted naturalist and writer, while analyzing some of the problems facing public wildlife administration, stated that "control of the harvest and control of the environment are the implements of wildlife management."

Every wildlife administrator recognizes the importance of enlisting and retaining the cooperation of those who own or manage the land that produces wildlife if he is to bring about management practices that will provide habitat suitable for game production. On the other hand, forest managers know that unless game populations are harvested with a view to keeping them in balance with forage supplies, the future of forest areas for timber production and eventually for wildlife production is extremely uncertain. Public officials entrusted with closely inter-related forest and wildlife resources have good reason to get together, around the conference table and on the ground, to work out a joint program to develop and safeguard the future of resources for which they are responsible. This is exactly what happened when the Pennsylvania Game Commission and the U. S. Forest Service entered into a cooperative agreement for better management of wildlife and wildlife habitat.

When Commission President Ross L. Leffler and Executive Director Tom Frye joined with Regional Forester R. M. Evans and Forest Supervisor R. J. Costley in approv-





Timber & Game Twin Crops on the Allegheny

By Ted Fearnow

ing the joint action program for the Allegheny National Forest in July 1949, they gave formal recognition to what has become the most pressing of all game management problems. Growing hunting pressure coupled with posting of private lands and the trend toward land uses which depreciate wildlife values has brought about a crisis in sport hunting which is particularly acute in the densely populated East. Pennsylvania, like other progressive states, is moving to meet this intensified pressure by developing strong farm game programs and strong forest wildlife programs. With more than 15,000,000 of Pennsylvania's 28,828,800 acres of land classified as forest, the development of a satisfactory formula for harnessing the productive capacity of this acreage for wildlife is of special importance. Added to the extensive Pennsylvania Game Lands, the Allegheny, Pennsylvania's only National Forest, may well serve to demonstrate the benefits that accrue from properly cordinated multiple-use management on publicly owned forest lands. Signing of this agreement launched a program designed to create on the Allegheny National Forest, a managed hunting and fishing area of nearly 500,000 acres in Elk, Warren, Forest and McKean Counties. It marked the successful culmination of many months of planning and discussion between officials of the Game Commission, the U. S. Forest Service and Pennsylvania sportsmen.

The Allegheny National Forest

Allegheny National Forest is one of 152 publicly-owned National Forests in the United States. It is managed from a headquarters office at Warren, Penna. For administrative purposes, the National Forest is divided into two ranger districts. The Southern District, located in Forest and Elk Counties, is under the guidance of District Ranger Arthur van Nort of Marienville, Pennsylvania, and land acquired to date within these counties amounts to approximately 223,000 acres. The Northern District is administered by Ranger Laurence Stotz stationed at Sheffield, Pennsylvania, and the boundaries of this district include 245,000 acres of National Forest land located within McKean and Warren Counties. Under the new program, Game Commission officials at Harrisburg and game technicians working out of field offices at Oil City and DuBois have become active collaborators in shaping land management policies on the National Forest. On the other hand, the cooperative agreement provides that the Forest Supervisor shall cooperate by meeting each year with the Commission to recommend necessary wildlife management measures for the National Forest. Already crews are at work on the forest improving food and cover for game. Game Commission and Forest Service representatives paved the way for effective action by jointly compiling a simple handbook giving instructions as to what, when and how various techniques for wildlife habitat improvement should be applied.

Two Waves of Exploitation

Forests and wildlife have been subjected to a long list of destructive influences ever since this country was settled by white men. The area now comprising the Allegheny National Forest has been the scene of two great waves of exploitation; one based on oil and the other on timber. The names of Farnsworth and Cherry Grove were to oil what Sutters Mill and the Klondike were to gold. A generation of loggers who harvested the rich wealth of timber from the Allegheny Plateau has since moved westward. The names of Kinzua, Enterprise, Warren, Kane and others well known to residents of the Allegheny Forest area have reappeared



U. S. Forest Service Photo

A thinning and weeding operation on the area has produced about 20 cords of chemical wood per acre. By permitting more sunlight to reach the forest floor, reproduction and growth of timber and game food species has been stimulated.

in the Pacific Northwest where our last big stand of old growth forests is now being harvested. The boom eras have passed in the Allegheny area and the plateau has taken on a more peaceful and sedate appearance. But the effects of a century or more of intensive use cannot be erased overnight and intelligent planning is necessary if an effective job of restoration is ever to be done. From this point on, the harvest of wildlife and timber will depend very largely on the type of husbandry exercised. The Pennsylvania cooperative program recognizes the major problems and provides a policy for guiding the long range job of coordinated forest and game management.

More Food and Cover

The cooperative program assigns major emphasis in manpower and funds to developing better food and cover for game, but framers of the program recognized that adequate protection is necessary if the benefits of stepped-up wildlife production are to be safeguarded and made available to law abiding sportsmen. Successful operation of a public hunting system will demand that the individual sportsman observe a rigid code of hunter ethics, otherwise the American plan of free hunting opportunities for all cannot survive. A few careless or selfish individuals in each community could, unless curbed, offset most of the constructive work accomplished by cooperative wildlife protection and development. Protection through law enforcement is a basic item in both forest and wildlife management. Under the Pennsylvania program the Forest Service will collaborate with the Game Commission's law enforcement organization to provide better enforcement of game laws within the National Forest area. The Game Commission will reciprocate by helping out on fire prevention and suppression.

Restocking by species, numbers and methods of stocking will become a matter for annual planning under

the new program. Game stocking will probably be of low priority for the present, at least, as the National Forest has a native stock of deer, ruffed grouse, wild turkey, raccoon and squirrels. One of the encouraging developments in wildlife management on the forest has been the recent return of the wild turkey to areas from which it has long been extinct.

A limited amount of emergency feeding will be undertaken in connection with further attempts to restore the wild turkey to a position of abundance. Ordinarily, emergency feeding is regarded as having little value in a balanced program of Forest wildlife management but in the case of the wild turkey, supplementary feeding during critical midwinter periods has been an important factor in bringing this fine game bird back to the National Forest. Field workers assigned to the National Forest program have an opportunity to become familiar with feeding habits and the exact areas used by turkey flocks. Armed with this information they can provide emergency rations with a minimum of waste. Meanwhile, efforts will be made to develop natural food supplies that will meet the needs of the wild turkey.

Wildlife workers have found that spring-fed swampy areas in the forest are used extensively by wild turkeys during severe winter weather. Warm spring water, permeating the soil, tends to melt snow quickly, thus providing access to bare ground and food. Spring seepage areas often retain green plant cover throughout the winter, further enhancing their value to wildlife. Under the new wildlife habitat development program additional "spring seeps" will be created by using logs to impound small basins of spring water. This project is a good example of coordinated management, inasmuch as the same water development which creates better turkey habitat may also provide a water hole from which fire pumps can operate during forest fire emergencies.

Plantings

Preliminary discussion between representatives of the Game Commission and the Forest Service indicate that some changes in forest tree planting plans may be advisable from the standpoint of wildlife. Where large areas are being planted an occasional opening of an acre or so may be left for wildlife food production and to furnish the low growing herbaceous cover so essential for young ruffed grouse. Areas of this type dry off quickly after rains and heavy dews and they provide good feeding grounds for young grouse and turkeys who frequent them in search of grasshoppers and other insects. Many small forest openings will be seeded to grasses and clover for wildlife.

Some of the larger openings scheduled for reforesting are the result of fires which so damaged the sites that natural revegetation is slow. Under the cooperative program, these areas are to be replanted with coniferous species by the Forest Service, but a border of 50 to 100 feet will be left around the edges of the plantation for development of wildlife feeding areas. The value of additional game food, immediately adjacent to shelter afforded by conifers, is well known to wildlife workers.

Predator Control

Predator control will be considered from time to time under the wildlife program, although no large scale effort to eliminate predatory species is contemplated. Through the development of satisfactory patterns of wildlife habitat under the long range program, it is expected that better food and cover will tend to keep predator pressure at a safe level. The planting of groups of conifers in large

areas now composed almost entirely of deciduous trees is considered an important step in developing better environmental conditions for wildlife.

Controlling the Harvest

Recognizing the importance of controlling the harvest as well as the habitat of wildlife, one of the important phases of annual planning will involve joint consideration of hunting and trapping seasons by species. Many of the factors which should be considered in making decisions concerning seasons are most obvious to the men who are working on the ground from day to day. Often evidence of poor nesting seasons, short crops of key game foods and poor survival of young birds and animals may be recognized by resident managers in time for remedial action through adjusted seasons. On the other hand, damage to wildlife food and cover through over-abundance of certain animals is usually detected first by those who are working on the ground and recommendations for longer seasons may provide relief from damage of this type. Joint discussion of bag limits by species affords the necessary opportunities for coordination where wildlife production and wildlife habitat maintenance are being carried out under a cooperative program.

Accurate information as to wildlife populations and conditions of browse and mast production are vital to the over-all management program. Cooperative wildlife workers are expected to carry out necessary census operations as an incidental part of their work to determine the level of wildlife populations and to develop better methods for maintaining an annual inventory of the wildlife resource. Daily field work on habitat improvement jobs will provide opportunities to determine condition and trend of food and cover and thus furnish important data for better wildlife management.

The program of wildlife habitat improvement has been designed with a view to developing the long range capacity of the National Forest to produce wildlife in coordination with other uses. Already food and cover development crews have been assigned to prune and release hundreds of old apple trees that are present on the Forest. Later, old fields and other clearings will be maintained as permanent openings for wildlife to increase the amount of forest edge habitat. Many of the openings will be fertilized and seeded to grasses, clovers and other green crops that will provide more food for game. The variegated pattern under which forests are broken by frequent clearings tends to favor most game animals.

Another type of improvement contemplates elimination of competing vegetation from valuable game food producing shrubs in a strip 50 to 100 feet wide in the area surrounding wildlife clearings. Opportunities to enhance wildlife habitat vary greatly from one area to another but trained food and cover crews, assigned by the Game Commission to work on the National Forest, are in a position to make the most of each situation. A long list of improvement operations are planned under the cooperative program and new techniques will be developed, the objective being to create a stable and productive habitat for wildlife. Annual game crops resulting from this program will be available for removal by sportsmen.

Roads and Trails

The Forest has a well-developed system of roads and trails which provide access for fire control, timber harvesting, hunting and protection and management activities. Roads may, of themselves, become valuable implements in wildlife management.



U. S. Forest Service Photo

Ruffed grouse about five days old. This little fellow was photographed in a clearing on the Allegheny National Forest. Grass and other low growing plants that grow on forest clearings provide ideal food and cover for the young birds at this critical period of their lives.

For example, new roads in areas remote from highways often permit more uniform harvesting of game crops. On the other hand, through closure, many Forest Service gated roads will bar access to areas where wildlife populations have been reduced to dangerous levels. Under the cooperative program, road closure will be discussed and planned in collaboration with representatives of the Game Commission so as to best serve long term interests of both game and timber resources.

Other items to be subject to annual discussion for planning purposes are cooperative administrative studies to systematically develop the most effective means for carrying on important work projects, migratory bird policy to insure effective joint action in collaboration with the U. S. Fish and Wildlife Service to protect migratory birds and educational projects to encourage a better understanding of forest and wildlife management objectives and a keener appreciation for the sporting aspects of hunting.

Planting of food-bearing shrubs will become an important part of the move to provide more harvestable wildlife to meet hunting pressure. In general, native plants will be favored and efforts will be made to introduce plant species providing food during critical winter periods when wildlife carrying capacity reaches its lowest level. An important fact to remember in this matter is that wildlife carrying capacity is limited to the amount of game that can be fed and sheltered when food and cover reach their lowest level. By directing attention to improvement of conditions at this critical "bottleneck" period, wildlife management can achieve maximum returns from every dollar expended.

Harvesting the Timber

In developing the cooperative program, both Game Commission and Forest Service representatives recognize that one of the greatest opportunities for development and maintenance of wildlife food and cover is in connection with work by the

district ranger on timber sale activities. Every deer hunter knows the attracting power of a logging operation for deer. The slash resulting from logging provides a great amount of food for game and in the case of most logging jobs, the forest canopy is opened and forest reproduction is greatly stimulated. The result is to provide much nutritious food, especially for deer. Under the cooperatively developed program, district rangers will attempt to make timber sales in areas where wildlife food is becoming scarce due to shade from closed forest canopies. This type of wildlife improvement practice will be carried on without direct cost to the sportsman.

At the present time most of the Allegheny Forest is composed of mixed second growth hardwood timber. Much of the forest has reached the stage where the leafy canopy has closed in, shading out low growing plants. Many of the trees making up this stand are of relatively low value for timber. Poorly shaped and defective trees are occupying growing sites and consuming soil fertility that foresters would prefer to see growing trees of greater potential value. From the standpoint of timber production, a selective cutting operation to "thin and weed" the stand is needed to improve the growing stock. Experience with this type of cutting indicates that it is also highly desirable from the standpoint of wildlife as the increased light reaching the forest floor stimulates reproduction and growth of many plants valuable to game. Trees of the type removed under this procedure are usually too small for saw logs. Ordinarily they are cut for pulp, chemical or fuel wood. If the market for this class of material can be increased additional benefits to timber growth and wildlife habitat will accrue.

During World War II, when the demand for wood reached a peak, prisoners of war were sent to the Allegheny National Forest to cut chemical wood. Thinning and weeding accomplished under this cutting program made a marked improvement in game food conditions, particularly for deer. True, the effects of this treatment wear off in a few years and the forest canopy again closes, but by treating new areas the operation can be continued for many years. When a higher percentage of the forest reaches saw log size, other cutting methods can be devised which will safeguard wildlife values. Stabilized timber production and stabilized wildlife production are both favored by an all age forest—one which has growing stock from tiny seedlings to mature timber. A forest without seedlings, like a community without children, has poor prospects for the future. This rule applies whether the future is measured in terms of trees or wildlife.

While the cooperative program was drafted as a working instrument between the Pennsylvania Game Commission and U. S. Forest Service, organized sportsmen, who had an active part in bringing the program to existence, are also expected to have an active part in development work. Clubs have already contributed labor and money to the furthering of food and cover development in portions of the National Forest. The cooperative program will provide skilled supervision and advice by wildlife workers familiar with local problems for carrying out projects of this kind. Participation by sportsmen can provide a strong stimulus to the program. The development of a productive forest wildlife unit dedicated to public use affords an ideal opportunity for sportsmen to get behind a constructive long range action program.

. . . The End

PART II

(Continued from September Issue)

WHEN Bolio had left his place on the front porch that rainy night, he had expected trouble, and it was like him to stalk grimly to meet it. Some dogs are scared by danger; others are roused and challenged by it. Of this latter class was Bolio. Moreover, he knew pretty definitely the character of his opponent from the moment when the heavy scent of the great cat was wafted to him by the rainy wind. He had met such a friend before; and he preferred a black bear at bay to one of these lithe and powerful creatures, so ready to slink away, to climb a tree, or to make a desperate stand if cornered. A dog knows the nature of his prey or of his antagonist better than does his master. Witness with what whining reluctance a hound will often follow a bear-spoor, when the same dog will create a regular sand-storm after a stag. Witness the savage speed with which a misguided dog will pursue sheep, contrasted with the utter deference he will manifest in the presence of a single goat. A dog that goes into ecstasy over the trail of a wild hog will sagely assume an attitude of conciliatory avoidance when he senses the presence of a rattler. And Bolio, being far wiser than most of his kind, was fully aware of the nature of this night-prowler, the approach of whom it was his duty to challenge. Down the steps the powerful black dog had stalked, his growl warning the intruder. There were stepping-stones across the yard to the little gate. Down this pathway the black warder of Jeff Wise's lonely cabin went, slowly, certainly, his head high, his eyes ablaze. What to him were rain and the night, mystery of that vast soltitude, peril—the lush scent of the



"When Bolio reached the gate, he was face to face with the tawny lion."

The Painter and The Pointer

By Archibald Rutledge

enemy? Such a dog has a passion for duty; and Bolio's present duty was to fight.

Loud ramped the green and white waters of the Juniata River down that wild tremendous gorge, in affluent rupture storming southward through the lonely mountains. Bolio knew well the meaning of that roar, and of every other sound. But no sound concerned him now; rather it was the sultry, the oriental odor of the panther, close at hand.

Possibly the puma did not hear the dog growl. The wind was blowing to the warder. At any rate, when Bolio reached the gate he was face-to-face with the tawny lion. I think the primary instinct in any member of the cat family, when in the presence of peril, is to run. "Discretion is the better part of valor," is a better motto for cats than for men. A cat is too proud to fight. Of course, a feline will make a stand; will even make a charge; but it is very much more adept at shrinking. There is something of feminine resourcefulness in such a creature that is intellectually superior to the bold, downright, candid courage of a dog. A cat has a sphinx-like sagacity, a certain ancient sorcery that the dog



But vain at this moment were sphinx-like sagacity and ancient sorcery. The puma was on the edge of the platform; Bolio appeared full in the only pathway to escape. Under such circumstances a cat will either jump to safety or will stand at bay to discover what a frightful mien, claws, and teeth can do toward retarding the zeal of an over-impetuous lover. Evidently the panther, familiar with the perilous nature of the ground—able, indeed, even in the darkness and the rain to see his surroundings—knew the risk in a leap. All his life this great male panther had hunted along the edges of the gorge. He did not quite dare to rush upon the grim hound; he could not safely leap. An inch short in such a leap, he would plunge one hundred feet. Nor was there a bed of roses below to receive his coming. There was nothing now to do but fight. As Bolio was of exactly the same persuasion, the business started instantly. There were no preliminary bouts. It was the impact of these two implacable enemies that Jeff heard the first time he opened the door. While he was in the kitchen, lighting the lantern, the mortal round was being fought! When he returned to the door, we remember, he was met by black darkness, and the rain, and the weird sighing of the reeking hemlocks.

That was a mighty round that Bolio and the puma fought on that black rock hanging above nothing. Johnson used to say that going to sea in a ship was like being in jail with the chance of being drowned. Then fighting on that shelf was like standing off two deaths at once. For either antagonist, a slip meant the

end of it all; the odds, therefore, in that respect, were decidedly against Bolio. A cat can cling where a dog has no chance of staying. A cat's feet and claws are made prehensible —like his life.

But Bolio, in his superb courage, showed not a second's hesitancy. He went for the puma's throat. Old hunter that he was, he was well aware of the place where things really live. In any living thing the neck is almost tragically vital; for there all the life forces converge in narrow compass, in narrow conduits. Into the panther's very bosom Bolio stormed; and he got the beast by the throat.

The puma had struck him savagely, ripping an ear to ribbons. He had reared up at the black hound's demoniac approach; and but for Bolio's momentum, the blow dealt him might well have driven him sheer from the rock. But now they had closed, and in deadliest sort. The puma's game was to claw the dog open with the keen claws on his hind legs. To this end he had gripped the dog's shoulder in his teeth and was trying madly to disembowel the grim and fearless creature that was strangling him. But the dog's grip on the puma's throat was decisive—at least for the moment. Even the superb lithe strength of the puma ebbed under the hound's relentless attack. The puma turned in agony, Bolio thrusting him backward. One of the cat's hind legs slipped off the cliff. He could not draw it up. Bolio continued to crowd his enemy. The puma released his hold of the hound's shoulder. The claws of his forefeet tore hotly into Bolio's back. But the black muzzle of the great hound only sank the more deeply into his victim's tawny throat.

The business could not last. The puma could not loose Bolio's hold. Nor could Bolio free himself from that heavy embrace that now gripped him in smothering cruelty. The puma kept turning—Bolio oncrowding. They were on the brink. The brink was slippery with rain and wet slime of the rock. A second of hot savage panting, a fierce snarl, an answering throat-buried growl—and off they plunged—down, down into the bellowing darkness.

It was just at that time that Jefferson Wise brought the light. The lights of this life not infrequently are brought after there is nothing for them to illumine.

Locked in death's embrace the two great bodies, hurtling frightfully, plunged like an unblazing meteor for the rocks gleaming below coldly in the rain. The wild fall through the darkness in no way abated the fury of their struggle. But of course their plunge could not last. It was of shorter duration than their fight on the rock; and its end was certainly more decisive. Death is, perhaps, the only perfect consummation; and on the gray boulders in the Juniata Gorge the puma suddenly achieved this perfection. He yielded with amazing celerity all nine of his lives. He also yielded, with little reluctance, his hold on the hound Bolio. Such a plunge, on such rocks, apparently sacked the puma incontinently of all his sphinx-like sagacity, all his ancient sorcery. And his giving over to them was indubitably final. Moreover, luck, that almost invariably smiles upon a feline as a favorite, was against this one. Of the two fighters, one had to take the brunt of the impact. The puma did. He struck squarely on his back; and the stars that he saw were probably a firmament. After his fall he more resembled a rug than a panther. Bolio had fared a little better. One of his hind legs was broken; he was jarred perfectly senseless; he rolled with the dead puma into the water, with a high-grade chance of being drowned. Otherwise he was unhurt. At least, he was not dead. That is

usually a consideration of some moment.

The fur rug to which the panther had been so suddenly reduced was sucked into the backwash pool, whence it was dragged next morning by Jeff Wise. A touch of real current got hold of the black body of the hound, toyed with it gently, purringly, caressingly; then drew it with imperious pride toward the wild ramp of the river. It would be difficult to say whether Bolio there had any more chance of staying alive than the panther had of recapturing his nine fled existences.

Bolio's insensible form, ideal prey for such waters, was now headed full for the epic journey down the lovely Juniata River, winding through what was then an almost virgin wilderness, bearing its blue waters toward the distant Susquehanna.

That the fearful impact of Bolio's fall should not have killed him outright was due to his having fallen partly in the water, partly on the puma. The leg that had struck the boulder had been snapped. And now, as his body was swirled swiftly away, that leg drifted at a sick angle. It is putting it rather too strongly to say that Bolio's chance for life was no better than the average woman's chance of winning a silence-contest. But it is out of just such desperate plights as Bolio's that the Odysseys of this world are wrought.

The black hound's body was being dashed blindly about—now sailing with sick serenity across a smooth stretch of water—now bewilderingly rolled and manhandled by the frantic waters. Lover seeks not lover with more infallible intent than water seeks its level; and in either case obstacles and obstructions and delayers of such a meeting are sure to suffer. The living body of a helpless creature is, of all such delayers, the most certain to suffer. For that



reason Bolio got worse treatment than he had ever had from the paw of panther or of bear. Yet had he been more gently used, more soothingly cradled, he might easily have drowned. He was so far gone that a lullaby might easily have finished him. But when his poor head was unmercifully whacked against a jagged rock, he dimly awoke. He was nearly drowning; he was suffocating, smothering. He tried to get his head above the water. Feebly he paddled with his front legs. He was, indeed, what his appearance declared him to resemble—an accident that had already happened.

It was but a few moments after Bolio regained something like consciousness that he went headlong over a brawling waterfall. There is a story in that country to the effect that a fisherman, by misstep, took the same plunge, and emerged from the

pool below with nothing worse than a broken arm. Bolio, through good chance rather than by design, slithered down over a smooth green cataract, plunged into a smother of foam, arose in a wild maze of effervescence, and was thrust forth into a broad pool dotted with pyramids and obelisks of foam. He drifted against a black rock, evershining from the spume of the falls; and here, with his nose above the water, he lay, breathing slowly, faintly conscious. Had he not brought up against this glistening boulder he might have sunk in the pool. Bolio knew that he was alive. All about him was darkness and thunder and a world weeping its ruin. He wondered what had become of the puma. The thought made the hound move his tongue to his lips. He drew himself the least bit higher out of the water. He thought of home and of his master. Of little else a good dog thinks when he is away.

The longing soon got the better of Bolio; Jeff Wise, he knew, could fix his broken leg. He whined uneasily. He felt that he was still in deadly danger. He wanted to get to shore. Using the little strength he had remaining, he pushed himself away from the tiny rock island that had intercepted his drifting with the current. In a moment that current had him again, and against its steady strength Bolio was helpless. The tide took him; to it he yielded: Down the hurrying stream he went—over rocks, across pools, slithering along swift, quiet stretches—plunging over low falls, gliding under bridges of fallen trees against which all kinds of debris had been rammed and jammed.

Perhaps it is a full mile from the waterfall to the glistening white sandbar that rims a deep elbow of the gorge. Most things that the river brings thus far find harborage here. It is as if the ramping tide, after all its frantic horseplay, had relented—and would here lay gently, even tenderly, whatever it had been pleased to make heartless sport of for so long. And here the river brought the hound Bolio, far more dead than alive, some two hours before dawn on that stormy September night.

(To Be Continued Next Month)



The Brown Ghost

by Grace O. Beach



THE LITTLE Brown Ghost is an affectionate nickname hunters have tagged to one of our most mysterious game birds, the little brown woodcock. The name fits him well, for he is a very shy, elusive and secretive little fellow. He sits quietly in his retreat all day and forages for his food during twilight hours. Because of the very nature of his nocturnal habits he is difficult to study and understand.

Phantoms are always mysterious and interesting and the little "Timberdoodle" is no exception. Experts spend many endless hours in trying to uncover its secrets, but the little brown ghost continues to defy this spying and prying into its private affairs. In general though, these same habits serve to provide the woodcock with better protection than other game birds.

Woodcocks have a ravenous appetite and the average bird will eat nearly twice its weight in food nightly. They have a great fondness for earthworms which comprise the greater part of their diet. When they are unable to obtain their regular supply of worms, they soon die.

While the woodcock are rather hardy birds and can stand a great deal of cold, they are not constituted to subsist on short rations, as so many other wildlife creatures. Therefore, the weather is one of their worst enemies. Early freezes or protracted droughts make it impossible to obtain the favorite supply of food necessary to their existence and this plays a very important part in the rise and fall of the population.

If you've ever been fortunate enough to get a good look at our elusive little friend, you can't help wondering how in the world they ever get enough to eat with that long

slender bill, but don't let that fool you. That bill is unique and does the job in excellent fashion.

The lower end of the bill is so sensitive, they can distinguish food well below the surface of the ground and it acts as both a probe and a pair of forceps. The upper mandible of the bill can be moved independently of the lower part, much like a finger. This feature is extremely advantageous and helpful in boring under the surface for food.

Our little ghost has a remarkable sense of hearing. The ears are located directly beneath the eyes, rather than behind them as is common in the bird family. They walk along with their heads cocked on one side, robin fashion, until they hear a stir in the earth beneath them; then down goes that bill deep into the earth in search of their favorite tidbit. At other times the bird will stand motionless with his bill thrust deep in the earth as though listening.

While there is some question as to whether the woodcock relies upon its sense of touch or hearing in the location of food, it is pretty well conceded by those who study its habits that it uses a little of both with the bill acting as an antenna to register the vibrations of the worm in motion. Anyway, that bill is the little fellow's most valuable possession and he is fully aware of that fact by keeping it immaculately clean and in good receiving condition.

During migration, the woodcock flies low, in single file and at night. This habit is a hazardous one and takes its toll of their number for many of these birds are killed by hitting against wires, cables, buildings and other obstructions erected by advancing civilization and industrialization.

The hens are heavier than the males and are slower rising and more deliberate in flight. However, the male has earned the name "Labrador

It's the three outer primary feathers of a woodcock's wing that make the whistle when the bird flushes.

Hal Harrison Photo



Twister" because of his rapid dodging flight during migration.

They put on a most amazing demonstration of their flying power during the mating season, at which time the male does one of the most dazzling aerial stunts ever seen. He struts about singing in a subdued, whimpering tone, broken at regular intervals with a sort of short nasal call. All of a sudden he takes off on a spiral ascent with the same twittering sound he makes when flushed. As he soars in a widening spiral, the singing changes to a clear tremulous call until he has reached a height of from 100 to 300 feet directly above his point of take-off.

Once he has reached the pinnacle, the little fellow startles you with another quick change of tactics, for he pitches headlong toward the ground. Just when you suspect he is about to end it all, he suddenly levels off and flutters to a gentle, graceful stop leaving the observer breathless and awe-struck.

Immediately upon landing the little show-off goes into his act again. These aerial exhibitions last about one minute and are repeated every four to five minutes, always just before dusk and again after dawn.

The male also selects the breeding and nesting place, choosing a site which provides a feeding area, cover for protection and at least one or two cleared areas for singing and courting grounds. His domicile is respected by every other male within the area and it is a rare occasion when another's chosen area is invaded.

During the period of mating the male becomes so engrossed in courting and his aerial gymnasts that he loses most of his caution and can be approached at close range. This is one of the most favorable of his habits, so far as the observer is concerned in studying this unusual bird.

The woodcocks build their nest on the ground preferably along the edges



W. Bryant Tyrrell Photo

A young woodcock only a few hours old. The young mature very rapidly and are capable of making short flights in two weeks' time.

of wooded tracts, in swamp thickets or dry ground near the stream. The nests are put together in a haphazard fashion, using dry grass, dead leaves and small twigs and are always well hidden from prying eyes.

The birds usually arrive in the north early in April and the hen is nesting in May. There are usually four eggs, light pinkish brown in color, sprinkled with deep brown and pale gray. The period of incubation is 20 to 21 days and during that time the hen rarely leaves the nest, except for brief feeding periods.

A hen will seldom desert the nest, unless she is annoyed too often, then she may abandon the nest and start a new one. This is the exception rather than the rule, however. Usually they don't go far when alarmed and will return as soon as possible. They will often flutter from the nest using the broken wing tactics to lure you from the nesting area.

The young mature very rapidly and are capable of making short flights in two weeks' time. They become very self-reliant in about four weeks and by the time they are six months old they are the exact duplicate of the parents.

The mortality rate among the young is very low, so that each pair of woodcock will usually contribute two or three birds annually. This is indeed fortunate since these birds will not breed in captivity.

Woodcock do not seem to have an established flyway such as ducks, geese and other migratory birds. Neither do they like to fly across large bodies of water, preferring to stick pretty close to land.

Data collected so far seem to point to the fact that the birds return to their place of birth. Their largest concentration point is at Cape May, New Jersey. There they seem to congregate during migration, to rest until colder weather drives them farther south.

When hunting these birds pay particular attention to the ground cover. The woodcock likes crab grass, Canada blue grass and poverty grass. Also, the hunter must cast an eye to weather conditions. An experienced woodcock hunter will work high when weather is wet, for it must be remembered, they do not like wet feet.

When the weather is dry, hunt the lowlands and along the streams and swamps. As the higher grounds dry and the birds are unable to obtain sufficient food, they will move to the moist ground of the lowlands for greater ease in obtaining their favorite food.

. . . The End



Outdoor Reveries



October Wanderlust

By John H. Day

THE October firebug has once more run amok across the hills. His flaming torch has set flaring scarlet waves to racing through the sumac thickets. Fiery woodbine tracers have carried the sparks aloft to touch off great maple bonfires along the hillsides. An occasional solitary sour gum burns like a glowing coal in the wake of the spreading conflagration. Sassafras edgings and even the threatening poison ivy have become fervid kindling, waiting to set the scarlet oaks ablaze as tannin gathers in the leaves.

October's fields and fencerows have succumbed to an acute case of wanderlust. Professional hitch hikers are everywhere alert for the chance to pick up a free hop to far away places. Many of these nomads will ride the skyways, snug in the "holds" of tiny feathered air liners. Others are pick-a-back travelers, foisting themselves on passing cattle and sheep and other wayside wanderers.

Many of these tourists are completely self-reliant They were threading the air lanes, riding updrafts for centuries before men mastered the art of gliding. Every water course in the land, from lowliest rill to mightiest river, freights their buoyant caravels each Fall.

We hiked a mile or two in fencerow country, noting these voyagers thumbing for lifts all along the way. The bladdernut had hung its branches full of the rattlebox bladders, planning to have some of these light caskets float off to see the world on the valley stream. There is method in this madness, of course. The idea is for these rafts to lodge at some distant port, there to discharge their cargo of sleek seeds, and thus start a new bladdernut colony.

Beggar ticks of the tick-trefoil took hold of our clothing as we passed by. In thick going many of these free riders were brushed off, far from the parent plants. A sizeable section of one long fencerow was aflame with the scarlet of bursting wahoo berries. Farther along we found several clusters of the blue-black fruits of the moonseed. These fellows depend on the birds for their transportation, and accordingly offer lunch to pay their fare.

Empty seed capsules of the witch hazel and the wild cucumber bore eloquent evidence of the sudden explosions which had catapulted their seeds to fresh fields. We even came upon a late-blooming touch-me-not with several fat seed pods still intact. The outdoor novices in our party got a great kick out of pinching these pods and watching the seeds fly wide and far.

Thistledown was in the air. Late dandelion seeds were riding the breeze, as were the fragile argosies of the milkweed, ironweed and the goldenrods. The winged keys of the box-elder were ripening against the day: they will cut loose in the bluster and say goodbye to the parental roof. Hard by a small grove of ash the ground was covered with thousands of winged seeds.

The walnuts and the hickories travel by squirrel power. The bushy-tailed fellows bury so many nuts that some survive the Winter feast days and push their rootlets into the warming Springtide earth. Burdock burs and Spanish needles jumped aboard as we brushed through the tangles, and at every step in the weed-choked areas we broadcast hundreds of tiny seeds, manufactured by a great variety of wayside plants.

There is a solid lesson in all this hitch hiking for the chance wayfarer who stops to read. Survival in the fierce competition of the thickets is only assured by production and more production. The roadside seed factories work mightily at the task day in and day out. Here there are no costly slowdowns, nor stoppages to argue over policy.

The successful residents of the fence rows learned long ago that such foolishness is fatal in the long run. Accordingly the assembly lines never halt from the time the plant pokes its head out of the ground, until the ripened fruits are on their way to carry on the family.

Once again it's topcoat time in the woodlands. Pressed by mid-October's nipping fingers, the good citizens of the timberlands, from tallest poplar to lowliest spicebush, are sporting the latest styles in Fall topcoats. The papaw on the bank by the creek is wearing a close fitting number of brown velvet. The beeches of the open hillsides have dressed up their buds in long slim coats. The dogwoods lean more to the stylish stouts, with plenty of padding.

When the quitting whistle blows in the humming leaf factories of the forest aisles all hands turn to the delicate task of sealing off the tiny tubes which have carried moisture to the leaves. A neat application of cork does this trick, otherwise the tree would bleed to death. Once the cork dam is in place the leaf casts loose from its mooring and floats downward to help blanket the roots with the protective Winter mulch.

Even as they cut loose this year's leaves and throw corky dams across the scars, the denizens of woodland and thicket look ahead to another Spring and dress their expectant buds warmly for the cold dark weeks of waiting. In a tiny swale I noted a dozen or so of the green augers of the skunk cabbage, already probing up through the brown leaf mulch. With all these preparations afoot before the first snow flies, the countryman wonders with the poet—"If Winter comes, can Spring be far behind?" I sat in the genial October sun on a genial October afternoon and watched a belted kingfisher try for his supper in the shallows at the head of a large dam. He apparently didn't know I was in the audience. From a perch in the edging willows he would sortie out above the water, hover briefly until he located a likely victim, and then make a diving try for the kill, hitting the water with a resounding smash.

Eight times he went into that

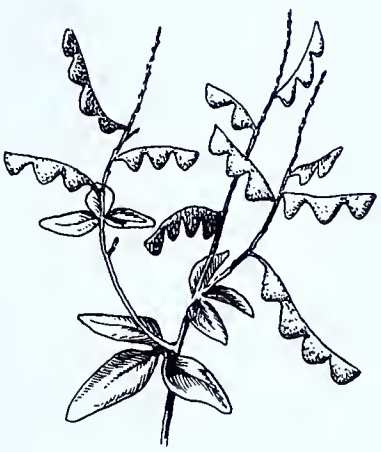
power dive, and eight times he scored a complete miss. Finally he gave up in disgust and headed off to other fishing haunts. His comments, as he went rattling along, were unprintable.

The grand finale of the outdoors flower show is now taking shape along the woodland trails. Witch hazel, last but not least of the flowering shrubs of the forest understory, is again showing the yellow, fringy flowers which give small bees and flies their last feast of the season. When this shrub blooms bravely on into November the countryman wonders, "has time grown sleepy at his post and let the exiled Summer back?"

The witch hazel is an artillerist, bombarding the neighborhood with its large black seeds. The catapults are the seed capsules set the previous year and ripening while this year's blooms are brightening the nooks and corners of the woodlands. For some excitement indoors, bring in a few fruiting branches of this shrub. Set them in a strategic spot and be prepared to duck when they touch off the shot. On the firing line the witch hazel is no respecter of persons.

As bedtime nears in the timberlands the outdoorsman keeps hunting excuses to spend an hour or so alone among the tall trees of some favorite woodland retreat. Here he finds a comfortable seat against a wide bole and loses himself in drowsy revery as the golden leaves float down all about him. An occasional light breeze stirs up a busy flurry, but he likes best those tranquil moments when the Still Small Voice is heard as each falling leaf rustles into its appointed place in the paisley blanket on the forest floor.

. . . *The End*



Tick-Trefoil

DOG TRAINING SEASON REGULATIONS

For the guidance of persons who train their dogs on game, the following extract from the Game Law of Pennsylvania is hereby cited:

"During the hours from sunrise to nine o'clock postmeridian, eastern standard time, dogs, when accompanied by and under control of their owner or handler, may be trained upon any game in this Commonwealth, except elk, deer, or bear, or wild turkey, from the twentieth day of August to the thirty-first day of March next following . . . so long as no firearms usually raised at arm's length and fired from the shoulder are carried and no injury is inflicted upon said animals or birds, except that during the foregoing period, and under the conditions stipulated, it shall be lawful to train dogs upon raccoons from sunrise to midnight, eastern standard time: Provided, however, that it shall be unlawful to train dogs on Sunday, unless the consent of the owner of the land where such training is being done has first been secured, but no such consent shall be required in the case of State and National forest lands . . .

"'Under control' is hereby defined to mean within call except when actually on a trail or track of legal game."



"Man for the first time in all history had a weapon that would reach out and hit any target he could see clearly."

PENNSYLVANIA'S WILDLIFE CONSERVATION HISTORY

CHAPTER III

Stabs in the Dark

(Continued from September Issue)

PENNSYLVANIA's first true game law was enacted August 26, 1721, by Sir William Kieth, Governor of the Province, when it became evident that the supply of game might not be so inexhaustible as it seemed. This law prohibited killing any buck, doe or fawn deer except between the first day of July and the first day of January, and established the first season on game. Penalty for breaking the law was a fine of 20 shillings, half of which went to the poor of the township where the offense was committed and the other half to the informer.

Indians were exempt from all provisions of this law which further prohibited the possession or sale of green deer skins or fresh venison during the closed season. This law had the same flaw that all other legislation was to have for scores of years thereafter—it was difficult, almost impossible to enforce it. It was but a stab in the dark.

Imagine, if you can, a hunter in the Pennsylvania wilds of the period who had to kill to eat, pausing to remember that it was illegal to kill the deer he was about to shoot. Who was there to condemn and to inform on him? And who was there in the wilderness to try him even if he was caught? No one, of course. That frontiersman's attitude was to persist long after the frontier vanished.

The peoples who poured into the new land, the Germans, Scotch, Irish and English, came from countries where hunting was limited to the nobility or to the very wealthy, and here they could do as they pleased. Later, Italian workmen assumed this same attitude with bloody results. The only part of the 1721 law that could be enforced to any extent was the third section which prohibited persons from hunting on enclosed lands or plantations without a license or permission from the owners, a provision which has a very modern ring to it.

Soon after 1721 there occurred another one of those events so insignificant on the surface, and yet, in the light of later years, so important in its effect upon our state's game. The Pennsylvania rifle was developed in the Pennsylvania-German belt of Lancaster, York and Berks Counties.

It is known today as the Kentucky rifle, only because it was used in the exploration and settlement of that territory; but it is the Pennsylvania rifle in every way. Its effect upon the hunting and even upon the success of our Revolution, is incalculable. Prior to its development, the frontiersman was armed with a smooth

bore musket which was deadly enough at very short range, but which required the assistance of prayer and luck to hit a barn door at fifty paces. The principle of rifling a barrel to make a bullet fly straight and true was known to some Old World German gunsmiths, but it remained for their Pennsylvania "Dutch" contemporaries to produce the perfect rifled weapon.

John Moll, in York and makers like Struzel, Allbright, Tolecht, Rosser, Henry and Lefevre, working in Lancaster, Berks and York Counties, put a new and deadly weapon in the hands of America around the year 1739. This slender and long-barreled flintlock was as efficiently accurate up to 100 yards as the best modern rifle of today, and in the hands of an expert marksman was effective far beyond that range.

It was originally developed for the express purpose of killing game, for men who often had to live entirely on what they killed. Man for the first time in all history, had a weapon that would reach out and hit any target he could see clearly. For the next century, the deadliest weapon devised up to the appearance of the percussion cap gun (which only made the loading of the flintlock Pennsylvania-type rifle faster), took its toll on small and big game and its effect on Pennsylvania's game supply is easily apparent.

In 1776, Pennsylvania's inhabitants were reassured that they "shall have the liberty to fowl and hunt in seasonable times on lands they hold and all other lands not enclosed." From then until 1869, nearly a century, little was done in Pennsylvania along the line of game laws except to place bounties on panthers, wildcats, minks, gray foxes and skunks.

The black moose vanished from the northern part of the State, the last elk was killed around 1867, black bears and deer retreated before the destroyers, wildfowl and other birds staggered under market hunting methods and small game of all kinds became dangerously low in population.

Some few alarmed legislators took action in 1896 and put through a law prohibiting the baiting and use of blinds, trapping or snaring to take wild turkeys, grouse, quail or woodcock. A few years later in 1873 the first comprehensive statewide wildlife act was passed.

This law fixed definite seasons on deer, wild turkeys, squirrels, rabbits, quail, grouse, woodcock, upland plover, Wilson's snipe, rails and reedbirds. It barred the running of deer or elk (if any remained) with dogs and the killing, trapping and sale of insectivorous birds. Ferrets could not be used to take hares or rabbits.

That sounds quite inclusive and wise on the surface. It was—but who was going to enforce these laws? This job was put in the hands of county officers, and more likely than not, the constable was as great a lawbreaker as the men he was supposed to apprehend so that the only persons open to prosecution were men who had incurred the dislike of the constable or the local justice of the peace. Special privilege ruled and the well-to-do "sport" could get away with almost anything, and did. The average citizen could do the same thing.

Many legislators were not interested in game laws, because they reflected the views of their constituents at home, then as now, the public sentiment was against conservation legislation. Nevertheless, still more laws were created which would have helped if they had been followed.

The passenger pigeon, caught in nets and shipped in barrels to city markets, was fast disappearing in 1875, so an act was passed that year prohibiting killing or disturbing



passenger pigeons on roosts or nesting grounds and non-residents of the state had to take out a $50 license for trapping or netting these birds.

Three years later another act was passed. This 1878 legislation made it illegal to kill wild ducks or geese with a swivel or punt gun, or any gun other than one raised by arm and fired from the shoulder. The same law prohibited hunting on Sunday and made it unlawful to hunt grouse at night.

Prior to 1885, all predator control was based on the agricultural precept that some species were harmful to farm livestock and fowl. The first recognition of predators as an influence on game, came in 1885 when the "Scalp Act" was passed. This act simply added weasels, hawks and all but three kinds of owls to an already large bounty list and it was repealed two years later because of frauds perpetrated under the act. A substitute bounty list was provided in 1887 and included: wolves, wildcats, red and gray foxes and minks.

In 1889 song and insectivorous birds were added to the protected list and "Bird Day" was first observed in Oil City Public Schools in 1894. The trend was in the right direction but precept and practice was against the successful prosecution of even the good laws.

There were many sportsmen in the State, but they were poorly organized and in no position to demand much of legislators, who were not interested in their alarm and concern over the decline of wildlife in Pennsylvania. The law enforcement problem remained—local officials, who were not corrupt were ignorant of the situation and the need for enforcement and ignored these laws completely.

The future of wildlife was threatened in even stranger ways. Believe it or not, the eggs of game birds brought a premium price among photographers of the period because their high albumen content made them chemically valuable. Collecting the eggs of all wild birds was a hobby with many persons and there was no one to stay these collectors as they robbed the nest of potential new generations of birds.

Something had to be done if Pennsylvania were to escape from the fate predicted for Eastern America by Frank Forester, foremost outdoor writer of the day, who forecast the end of all hunting in that section by the turn of the century. Thinking sportsmen became alarmed and began fighting.

John M. Phillips, who was destined to lead the fight, related many times the experience that lined him solidly in the conservation ranks for all time. An incident in a day that changed the course of a lifetime.

In 1889, he went deer hunting with Hiram Frost in the Northern Counties between Brockway and Ridgway. They jumped a buck and trailed him all that day and the next day and finally killed him on the third day out.

During all that time they did not cross another single deer track. As he stood over the dead buck, Mr. Phillips had the awful sensation that he had killed the last deer in Pennsylvania and then and there over the carcass of the dead buck he vowed he would never kill another deer in the state, a vow which he faithfully kept.

In 1890, H. A. Penrose of the Keystone Manufacturing Company, makers of clay targets and traps, credited with being the spark of the movement, John Phillips and many other hunters who felt the same way, met at Corry, Pa., and organized the Pennsylvania State Sportsmen's Association which is still in existence and still going strong.

One of the first things the new organization went after was a conservation or Game Commission to halt Pennsylvania's toboggan slide in wildlife population and prevent the unregulated slaughter being carried out. Other states had commissions, but they were usually hog-tied by politics, lack of money to operate and plagued by internal squabblings. These men did not want that sort of Commission for Pennsylvania and set their sights on a non-political Commission, financed through a hunting license fee, with power to propose legislation and to enforce those laws passed.

Setting the sights was one thing, but the accomplishment of the task another. A long bitter fight ensued. Politicians were afraid of the organization and the power it might become in the political scheme, and they were afraid of a Game Commission and they fought against it with everything they had.

This did not deter these early conservationists. Aided by the Pennsylvania Fish & Game Association of Philadelphia and other individuals who were interested but were not members of either organizations, the Pennsylvania State Sportsmen's Association carried on the fight with grim determination and courage. It is not easy to hitch one's wagon to a star.

(To Be Continued Next Month)

GET READY TO SHOOT

A Game Commission firearms expert advises hunters that now is the time to check their sporting guns for efficiency of operation and for safety to themselves and others.

Many a hunter's trip afield has been spoiled because his firearm failed to function properly. When the quarry he eagerly sought came in view some mechanical fault cost him his opportunity.

More important, few hunters seriously consider the value of pre-season gun inspection. The Game Commission's records reveal many a case of injury or death due to faulty or weakened gun structure, obstruction in a gun barrel and other causes that inspection or the services of an expert repairman can remedy.

Accident-minded sportsmen will act upon these suggestions: Clean and carefully examine shotguns and rifles. If any structural defect or malfunction is noted, take the firearm to a qualified gunsmith at once, to allow time for its repair before hunting season. Preventable, serious results will thus be avoided and the prize that flushes in game season will be covered by a gun that works.



Taking Maggie to the Fair

By Wilbur M. Cramer

ORDINARILY a fellow has an opportunity to invite his own lady friend to go along to the Fair. He also prefers to take her in his car. My experience was just the opposite. I received instructions in August, 1927, to come to Harrisburg, secure a light truck, and take Maggie to the Hatfield, Montgomery County, Fair. It is well to explain that Maggie was a big black, female bear, and a personal automobile would not have been suitable for the trip.

Following the close of the 1926 season of our wild animal exhibits at State fairs, Maggie was loaned to Mr. Charles Heiges, of York, for exhibition and study at a girl's camp in York County. By the end of the summer Mr. Heiges asked the Game Commission to relieve him of his charge, and that was the reason for my trip.

I met Mr. George M. Appleby, my former Sunday School Teacher, in Harrisburg. Remembering the song about, "The Preacher and the Bear,"

I thought it would be well to have some good moral support for the task ahead. My assignment sounded adventuresome to Mr. Appleby and I was more than glad to have him consent to accompany me. We were off for York County.

When we arrived at the Camp a quick survey of the situation failed to show any big concrete bear pen as I had visualized. We looked up the hill towards the main camp buildings. There in the middle of a beautiful grove was our "date" pacing back and forth. A heavy collar and chain secured her to a long wire. This was encouraging. She looked perfectly harmless.

Mr. Heiges saw us and walked down through the grove to meet us. We introduced ourselves and told him we had come for Maggie. He said, "All right, gentlemen, just back your truck in against the bank." He walked back to the buildings and secured two soft drink bottles filled with sugar water. Upon reaching the bear, Mr. Heiges said, "Here, Maggie," unsnapped her chain from the ring on the wire, and gave her one of the bottles. Maggie stood up on her hind legs, held the bottle in her front paws, and proceeded to drink. She was quite SOME bear when she stood up. It didn't take Maggie long to empty the bottle. Mr. Heiges then held the other bottle in front of her while he led her down through the grove to the truck. We pulled up the door of the large crate on the truck and Maggie followed the bottle of sugar water into the crate. Mr. Heiges said "Get in there, Maggie," and I dropped the door.

We started for Montgomery County. It was supper time when we reached Paoli, so we parked our truck on the main street and went to a restaurant. Upon returning to the truck we found a large delegation of boys and girls around it looking in awe at the big bear.

After we left Paoli, Mr. Appleby suggested that since we still had a long ways to go, we should break our journey by staying overnight with Mrs. Appleby's sister and family in Narberth. I readily agreed to this plan. Mr. and Mrs. Jay McCartney must have been quite shocked shortly before dusk to see two men and a bear stop in front of their home. Our host told us to put the truck in his garage. However, in the excitement of having such an unusual guest, he completely forgot about the local policeman who often used the back seat of his car to catch "forty winks" during the quiet of the night. This night was no exception. There must have been a hurried exit by the representative of the law, for the next morning an open garage door and burning lights plainly told the tale of one badly scared policeman. Apparently Maggie's grunts caused her visitor to leave without even saying "goodnight."

In due time that day Mr. Appleby, Maggie and I arrived at the Hatfield Fair. She was placed in a suitable exhibition cage and again had her outdoor friends as companions. We returned to Harrisburg, mission completed, discussing our unusual experience of "Taking Maggie to the Fair."

. . . *The End*

IT'S BIGGER THAN YOU THINK

Few people realize the time, effort, equipment and money required to provide and improve the essentials for wildlife of the Keystone State.

Each year it is necessary to maintain 880,400 acres of State-owned Game Lands including servicing over 3500 miles of boundary, 865 miles of roads, 605 miles of fire trails, and 156,400 acres of refuges, propagation areas and special preserves.



The scenic beauty of Potter County at Cherry Springs Tower.

POTTER COUNTY

PENNSYLVANIA'S "LAST FRONTIER"

(Second In A Series)

Note: This center sheet can be removed, if desired, without damaging the magazine.

Established as a county in 1804 from a part of Lycoming County and named in honor of General James Potter, distinguished Revolutionary War officer.

Land Area

1092 square miles of which 887 are forested and 205 are non-forested, devoted mostly to agriculture. Forest land includes 251,428 acres of State Forests and 17,894 acres in State Game Lands.

Transportation

There are 1094 miles of public roads including 519 in State Highways and 575 in Second Class and Borough roads. The Roosevelt Highway (U. S. 6) traverses the county from east to west. Railroad transportation furnished by Buffalo & Susquehanna, New York & Pennsylvania, New York Central, and Pennsylvania lines.

Topography

General topography of county is that of high tablelands sloping in different directions and carrying streams north, south, east and west. On a plateau near Gold, three springs on the same farm are headwaters of the Genesee River which flows into the Gulf of St. Lawrence, the Allegheny which flows into the Gulf of Mexico, and a tributary of the Susquehanna which flows into Chesapeake Bay.

Game Protectors

Robert F. Ellenberger, 503 Ross St., Coudersport, has jurisdiction over Sharon, Oswayo, Genesee, Pleasant Valley, Clara, Hebron, Allegany, Roulette, Eulalia, Sweden, Keating and Homer townships.

Max N. Ostrum, R. D. No. 2, Galeton, has jurisdiction over Singhan, Harrison, Ulysses, Nector, Pike, West Branch, and Abbott townships.

William D. Neely, Box 724, Austin, has jurisdiction over Portage, Sylvania, Summit, Wharton, East Fork District and Stewardson townships.

Fish Warden

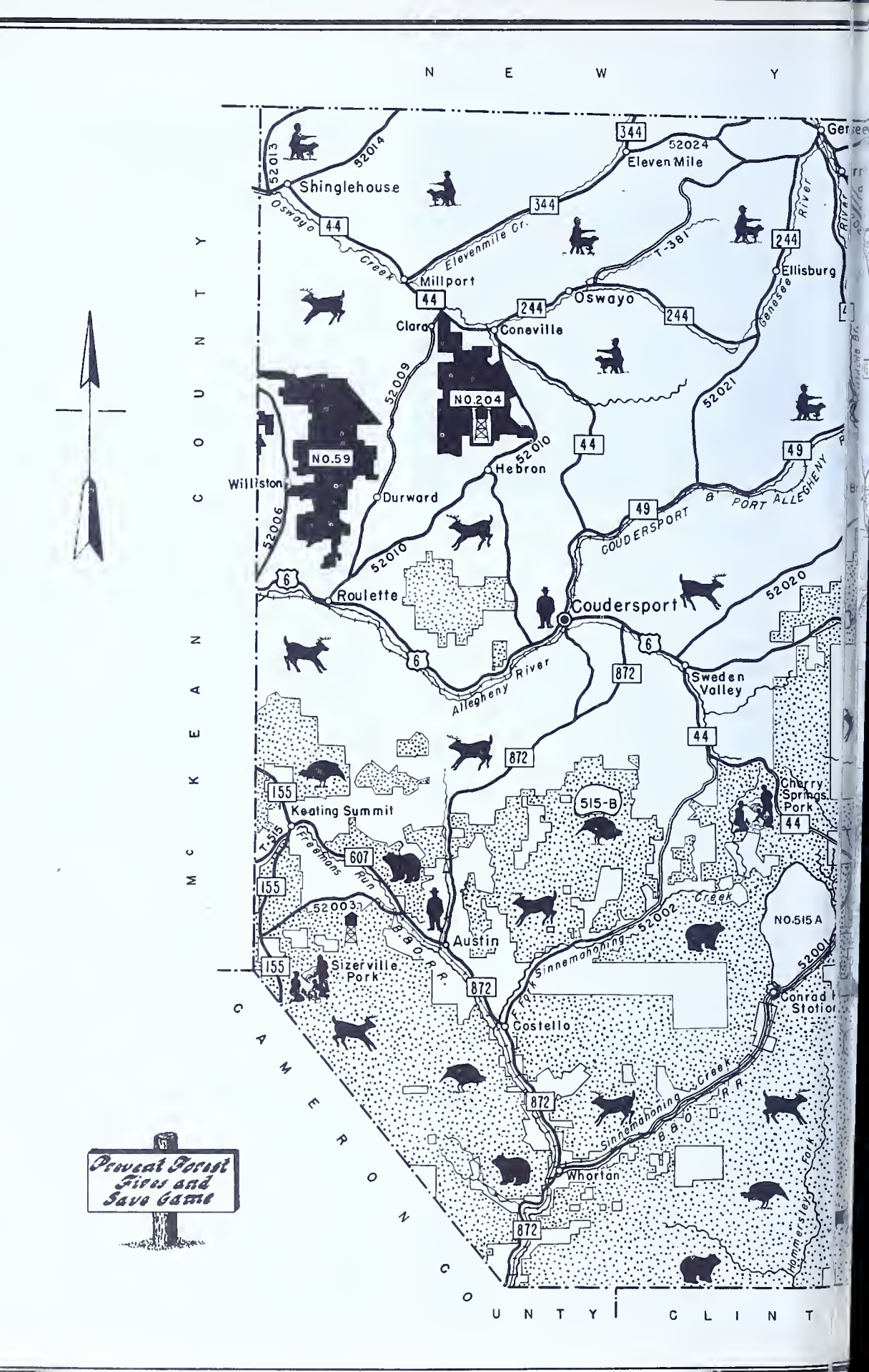
Kenneth Aley, 173 W. Main St., Galeton.

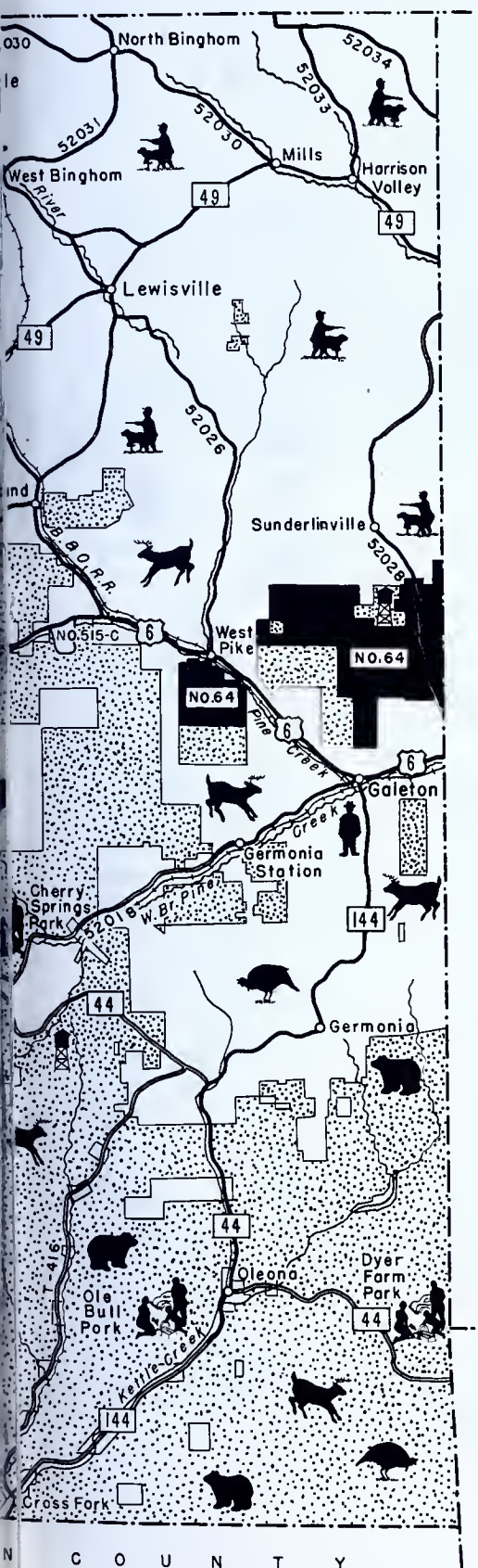
District Foresters

H. E. Elliott, Coudersport; L. G. Barnes, Emporium.

Historic

This county was the hunting ground of the Delaware Indians and was included in the purchase following the treaty at Fort Stanwix in 1784. The early history of Potter County is the history of timber. The county abounded in great pine and hemlock forests which were cut and rafted down the streams into the Allegheny and Susquehanna Rivers. The ruins of Ole Bull's castle near Oleona are a reminder of the attempt


N E W Y
Shinglehouse
52013
52014
Oswayo Creek
44
344
Elevenmile Cr.
Millport
Eleven Mile
52024
T-381
244
Ellisburg
Genesee River
Clara
Coneville
Oswayo
NO.204
NO.59
Williston
52009
52010
Hebron
Durward
52006
49
COUDERSPORT & PORT ALLEGHENY
52021
Roulette
Coudersport
52020
Allegheny River
872
Sweden Valley
155
Keating Summit
T-505
Freemans Run
607
515-B
Cherry Springs Pork
NO.515A
52003
B & O R.R.
Austin
Sizerville Pork
Costello
Sinnemahoning Creek
Conrad Station
Whortan
Hammersley Fork
McKEAN COUNTY
CAMERON COUNTY
CLINT
Prevent Forest Fires and Save Game



···KEY···

- ···County Seat.
- ···State Forest Fire. Observation Tower
- ···Game Protector's Headquarters.
- ···Bear Hunting.
- ···Deer Hunting.
- ···Wild Turkey Hunting.
- ···Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- ···Railroad.
- ···Stream.
- ···State Forest Land.
- ···State Game Land.
- 515-A ···Primary State Game Refuge on State Forest Land.
- ···State Park.
- 49 ···Pennsylvania Route Number.
- 6 ···U. S. Highway Route Number.
- 52018 ···Legislative Route Number. (T-Township Route)

PENNSYLVANIA
GAME COMMISSION

POTTER COUNTY

PENNSYLVANIA

0 1 2 3
Scale in miles

L.A.M.

of the famed Norwegian violinist to found a colony as a haven for his countrymen in 1852.

Industry

A small area in the northwestern corner has produced oil for many years. Since 1931 large gas wells have been drilled in the Hebron field and at two other locations. Coal in scattered deposits has been mined for local use only, and sandstone is quarried for building blocks. Principal products are sole leather, wood distillates, silk and rayon hosiery, toys and games, and surgical appliances.

Agriculture

The growing of great quantities of certified seed potatoes is an important agricultural enterprise. County also noted for cattle raising and production of cheese.

Recreation—Hunting

County noted for abundance of forest game species. In 1949 it ranked third in deer kill and seventh in bear kill. Wild turkeys are found in forested areas and county also offers grouse and squirrel hunting. Farming sections provide fair small game hunting. Three tracts of State Game Lands are located in county—Number 59 near Williston, Number 64 near West Pike, and Number 204 near Coneville.

Recreation—Fishing

Fishable waters (name of stream, fish stocked, location, and length of stocked waters) include: Allegheny River, brown trout, Coudersport, 8 miles; Bailey Run, brook trout, Wharton, 5 miles; Bell Run, brook trout, Shinglehouse, 2 miles; Cowanesque River, brown trout, Potter Brook, 3 miles; Cross Fork Creek, brook trout, Cross Forks, 8 miles; Cushing Creek, brook trout, Westpike, 7 miles; Dingman Run, brook trout, Coudersport, 6 miles; Dodge Brook, brook trout, Harrison Valley, 5 miles; Dry Run, brook trout, Sweden Valley, 4 miles; Eleven Mile Creek, brook trout, Millport, 6 miles; Fishing Creek, brook trout, Roulette, 10 miles; Genesee River, brown and rainbow trout, Genesee, 16 miles; Kettle Creek, brook trout, Oleona, 4 miles; Lyman Run, brook trout, Germania Station, 7 miles; Mill Creek, brown trout, Coudersport, 6 miles; Big Moore Run, brook trout, Costello, 4 miles; Nelson Run, brook trout, Sweden Valley, 3 miles; Nine Mile Run, brook trout, Galeton, 4 miles; Oswayo Creek, brook and brown trout, Shinglehouse and Coneville, 11 miles; Pine Creek, brook trout, Sizerville, 8 miles; Reynoldstown Branch, brook trout, Ellisburg, 4 miles; Sartwell Creek, brook trout, Roulette, 4 miles; Sinnemahoning Creek, brook and brown trout, Wharton and Costello, 45 miles; Trout Run, brook trout, Roulette, 3 miles.

State Recreation Areas

Ole Bull State Park, offering swimming, tenting and picnicking facilities, is located on Route 144 about one mile south of Oleona. Sizerville State Park is located six miles northeast of Emporium and can be reached over the road connecting Emporium and Keating Summit. Swimming, picnicking and tenting facilities are available. State Forest Picnic Areas include: Dyer Farm, offering fishing, hiking and picnicking; and Cherry Springs, near Sweden Valley, offering hiking and picnicking.





Game & Predators in Pennsylvania

by J. M. PHILLIPS

TODAY, as far as hunting and fishing are concerned, I believe we have a leg in a cast when it is an arm that is broken. For twenty years our ground breeding game birds and songbirds have been on a so-called "downward cycle." The quail are supposed to have small livers and can no longer endure our hard winters and the grouse get some mysterious malady no one seems to know anything about. I have not heard what is wrong with the meadowlark but I know it is just about non-existent where I live.

Not long ago I read a weather bureau report wherein it stated "old time winters just ain't so." Winters are not as severe now as they were twenty years ago, yet twenty years ago we had plenty of grouse and a lot of quail.

I believe in trained wildlife technicians, but trained in the field as well as from text books. After all, one cannot learn much about wildlife from text books since there are only a few practical ones on the market. If a technician in the Arizona desert finds wildlife doesn't have enough food and cover, it doesn't necessarily follow, and it shouldn't ring across the land, that the same is true in Pennsylvania. Here are some food and cover facts that I would like to see some technician explain.

I dug a hole 18 inches deep in my private game refuge and placed 150 unhatched pheasant eggs in the hole. It was then carefully covered with ground. Two days later I returned to see what had happened. Skunks had dug down and removed every egg. Let somebody tell me how heavy the cover must be to protect those eggs.

I have a one acre plot with a pond

in the center. Around this acre I built a net fence protected by electric wires. In this pen I raised over 100 ducks through natural production. I removed the fence and protecting wires the next year and with the same amount of breeding stock—8 females and 3 males—not a single duckling was produced.

In the spring of 1947 our Game Protector placed two pairs of healthy quail on my farm. Later, in my orchard, I found two quail nests, one containing 14 eggs and the other 16. Later that same night (this was just before hatching time) the eggs in both nests disappeared. I placed steel traps in the empty nests and caught 11 skunks in the traps before they were unmolested.

In the winter of 1949 I was feeding 40 ringneck hens in the wild on the farm. By spring enough cock birds were stocked to give good breeding results. All during the summer and fall of 1949 we watched for young pheasants. We saw not a single brood although we did see most of the old hens from time to time.

No food and cover you say Well, sir, I had food and cover technicians on my farm from both state and private colleges. They could not see where I could make any improvements on my food and cover. On the same farm back in 1919 there was less food and cover, which I can prove with pictures. We farmed cleaner than we do now, but then we had not a single skunk or opossum on the farm as far as we knew. The winter was more severe, a fact which can again be proven with pictures. With less cover and food and with an equally severe winter, I had 30 to 40 quail on the farm. Only one factor changed—the predators.

If some are still unconvinced, ask the poultry raisers how many domestic turkeys or guinea fowl they can raise on their farms in the semi-wild state now as compared to what we did then. How many flocks of guineas and turkeys, which have reproduced themselves, have you seen in the last twenty years?

Why are there so many egg-eating predators like the skunk, opossum and the crow in our woods and fields today? Are these predators on an "upward cycle?"

Back in 1914 there were no trapping laws in our Game Code. We started trapping skunks, opossums and raccoons when we wished, often late in September. The animals were then on the move to store up fat for the winter and we placed traps in their holes and caught them. Often there were so few holes that we had to dig blind ones. Then there were very few groundhogs to dig holes for the skunks and opossums and we could really control these predators. I often could catch only one or two skunks in an entire season in my territory. In September we also started to hunt raccoons and by the time the severe winter weather arrived, we had them nearly exterminated.

Next came trapping laws. The sportsmen didn't want their dogs to get their toes pinched. The trapping season was closed until the hunting season opened and no hole or den sets were permitted. This saved the dogs but it brought back the egg-eating predators like the raccoon, skunk, weasel and opossum. This

Editor's Note: This interesting and well presented article by Mr. Phillips, who is one of our leading commercial game breeders, does not necessarily constitute the views and policies of the Game Commission. However, it may be noted that at its July, 1950 meeting, the Commission removed protection from the skunk and opossum for the ensuing year.



Hal Harrison Photo

Opossums, America's only marsupial mammal, has been characterized as a "silly, grinning idiot." They can and do eat everything, from horse meat to earthworms, and from oak leaves to grass roots. They are especially fond of eggs of ground nesting birds.

large crop of furbearers takes more game out of the woods and fields than all the hunters.

I can remember taking a skunk, an opossum, and a weasel out of the same blind hole which I had dug along a stream. Today that would be illegal trapping. Today the trapping season starts late and the animals are already fat and stay in their holes when the weather is cold. They are hard to catch and they make the next year's breeding stock of more predators.

In addition to the state game laws, the use of modern farm machinery has caused an increase in groundhogs and groundhog holes. Our steep hills are not farmed with this machinery and, therefore, they have grown up in shrubs and weeds. This cover and these holes become death traps to rabbits when we have too many predators and they are natural breeding homes for the very same predators.

To make things worse, we have the problem of decreasing market prices on pelts. About 1917 big raccoon hides brought $15 on the market, red fox $30, and skunk and opossum hides high in proportion. Today coon skins fetch 75 cents and red fox skins are worth even less. Recently I heard a sales announcement for raccoon coats which were selling at a special attractive price of $375 and up. It is very evident that something is wrong with the price a trapper gets



The raccoon eats pretty nearly everything that comes along, including small birds and mammals, when he can catch them. He devours eggs eagerly and is particularly fond of fish.

for his furs compared to the retail price of the product. Possibly some investigation along that line would be in order, but since a hunter or trapper can do little about that, let's look at things we can do.

If I could set the seasons and bag limits just until egg-eating predators were again under control, I would not remove the protection from any animal in the summer time, but I would start trapping and hunting season on the egg-eaters and other predators on October first, a time when these animals are really moving around at night. Their skins are worthless, prime or not prime, so that it is no gain to wait until cold weather restricts their movements and they are difficult to catch. I would permit trapping in holes and dens until these predators were under control. Instead of giving the farmer free seeds and shrubs and paying him to let corn and grain remain in his fields, I would give his boys free traps and teach them how to use them.

As long as ground breeding game cannot reproduce—and it cannot under present conditions—I would restock game only after the harvest or about August first. This is the time of the year when birds are the cheapest and food is most plentiful. Pen-raised birds can more easily adapt themselves to the wild natural habitat and will become more naturally wild by the time the hunting season rolls around.

Since pheasants no longer naturally reproduce in sufficient numbers, I would open the season on males and females. Spring restocking with predators getting 98 per cent of the eggs, is money down a rat hole. Buying grain in the fields and carting out corn for game when the crows get 98 per cent of it is equally foolish—better throw it down the same rat hole.

I do not want to criticize to hurt anyone. I am not criticizing college or professional men as such, but I do believe we have gone over-board on food and cover to the neglect of the chief factor in our scarcity of game. I have the cover and yet I can't raise quail, ducks or pheasants without protection. How, then, can it be expected that they can reproduce themselves in the wild where the predators are certainly more plentiful than on my farm?

In my business as a game breeder I should ask for protection for all egg-eating predators since the less birds left in the field, the more demand there will be for my product. However, I have grown up with wildlife as a farmer and a hunter. I want to continue to do the same and I want future generations to have the privilege to enjoy the sport I have enjoyed.

As a farmer I learned that you cannot get a good crop of potatoes with beetles and weeds in the same patch, regardless of how much fertilizer you use or how good seed stock you plant. You simply can't keep hot coffee and ice cream in the same dish very long.

I do not believe in nature balancing itself. I believe I must do my part and then nature will do the balancing. Man was created after God's image to control wisely and dominate all that liveth on the earth and in the water thereof.

It may be true that there is an annual harvest of $1,000,000 worth of skunk pelts, but, if shunks destroy five times that amount of wildlife, they should be controlled. Again, I remind you—a good doctor does not put your leg in a cast when your arm is broken. If he did, we would have the right to criticize and change doctors. Criticizing for the better is what made America great. Today, as far as hunting is concerned, I believe we have the leg in a cast when it is the arm that is broken.

. . . *The End*



Outdoor Kids

By Hal H. Harrison

GOSSIP always travels faster than truth, so Billy and Jane learned all the "old wives' tales" about bats long before they learned the real facts. Here are a few of the things that people told them:

That bats get into your hair; that bats carry bedbugs; that bats are a sign of bad luck or even death; that bats are dirty; that bats are blind; that bats are birds because they fly; that all bats are vampires and will suck your blood.

Everyone of those statements is false.

No innocent little creature in all the world has had so many bad things said about it as the bat. Indeed, it is hard to believe that anything that people fear so generally could be absolutely harmless and entirely beneficial to those who are so afraid of it.

Although she knows better, so many people have told Jane that she should wear a hat when bats are flying overhead, she sometimes puts her hands on her head when a bat flies low over her.

"Afraid it will get in your hair, eh?" Billy asks in a scornful voice.

And then Jane looks sheepish, for she knows that in her hair is the last place a bat would want to be. A bat has a radar system so perfect that there is no chance of it making a mistake and hitting you when it flies past.

Bats probably have the keenst sense of hearing of any living things. They used a form of radar thousands of years before man ever dreamed of it. When flying, a bat continually emits a high-pitched sound, too high for human ears to record. It is the echo from this sound, bouncing back from objects ahead that permits a bat to fly in the dark without hitting anything.

Someone has called this "echolocation" and it is so highly developed in bats that they can even detect a silk thread stretched ahead of them. The principle is being used to assist blind persons in locating objects by judging the echoes returned from their own voice.

"Blind as a bat" is not blind at all. Bats can see in the daytime, but they do not see particularly well at night. However, with their "echolocation" ability, bats do not require a highly-developed eyesight.

The "wing" of a bat is a modified forearm and hand, covered with a thin membrane. The "thumb" of this hand is free and is an aid to the animal in crawling. Our Pennsylvania bats have a membrane between their hind legs which completely conceals the tail.

Bats are mammals, just as horses, foxes, mice and skunks are mammals. They have a furry covering; they give birth to living young; they suckle their young at the breast. Bats mate in late autumn and one or two babies are born in the spring.

In Pennsylvania, there are about 11 different species and sub-species, all of them insect-eaters. Some migrate to southern states in the fall, others hibernate. Those that hibernate hang by their feet, head downward, in caves or attics. In the summer, bats often roost in trees in this same upside down position.

It was autumn when Billy and Jane saw the bats fly into a cave. With Pal, they went to the opening and peered into the darkness but they saw nothing.

"It would be dangerous for us to go in there alone," Billy warned his sister. "Maybe some day with some big folks along, we can explore the cave and see the bats in wintertime," he added.

Delany's Cave on Chestnut Ridge, near Uniontown, is a favorite hibernating cave for bats. Spelunkers often see them by the hundreds hanging from the walls, deep inside.

SAVE PROTECTED HAWKS

The Pennsylvania Game Commission cautions hunters against the indiscriminate shooting of hawks, pointing out that only three kinds of hawks—the goshawk, sharpshinned and Coopers—may legally be shot, and these only because of their killing habits. It also points out that these hawks represent a small percentage of the total seen at this season.

All other types of hawks (eagles too) are protected unless caught in the act of destroying domestic livestock, poultry, game, other protected birds, their nests, or fish in private rearing ponds, or they are killed immediately after their predatory activity.

The Game Commission appeals to gunners, in the interest of Conservation, to stop shooting at protected hawks.



Protected Fawns

SCHWENKSVILLE—I was very interested in seeing a deer incident while at the Eastern Game Farm for training. The breeder fields that were not used this year at this farm have a deer fence around them. However, a doe found her way into these fields through a small gate. She walked through the first field and entered a small gate into a second field where she gave birth to two fawns in the high timothy. Each morning before it got light, she would sneak out through the gates and hide in the woods about a half-mile away. Each night after dark she would sneak back through the gates and spend the hours of darkness with her young. —Student Officer William E. Shaver, Ross Leffler School of Conservation.

Big Bite

WHARTON—While on foot patrol near the mouth of Bailey Run late in June I went past an old barn foundation and observed a large rattlesnake under a fallen barn door. After shooting the snake I discovered it had swallowed something that was unusually large. I put the dead snake in the car and stopped at Wharton where it was opened in front of several fishermen. The snake had a cottontail rabbit that was fully a third grown in its stomach. There was a good deal of comment about seeing is believing since it didn't seem possible that the snake could have swallowed such a large object. The rattler measured 42 inches.—Game Protector Bill Neely, Austin.

Of Waxwings, Cherries and Bananas

CARRICK—On the evening of May 31 I received a call from a Mrs. Chalfant of Carrick asking what there was about sweet cherries that would kill cedar waxwings. She told me that about 65 cedar waxwings had converged on a sweet cherry tree on her property and had proceeded to feed on the partly ripe fruit. Soon the birds began to fall out of the tree, unable to fly and very sick. Four of these birds died before the woman hit upon the idea of feeding them bananas. There was no real reason for this "banana medicine" but it apparently was a successful remedy. The lives of three birds were saved by feeding them the yellow fruit as soon as they had fallen out of the tree. This cherry tree had not been sprayed and nothing indicated that it was any different from other cherry trees. What was wrong with the waxwings is beyond me and why the bananas were a cure is still more of a mystery, but the observing eyes of Mrs. Chalfant saved the lives of some cedar waxwings.—Game Protector Robert Rea, Clairton.



Strike Out

EMPORIUM—On June 4th Deputies Forsty Rishel and William Kephart and I were hunting rattlesnakes on a tributary of Hunts Run. We had killed several and were about ready to give up the hunt for that day when I spotted a large rattler coiled up on a rock. I was not in a very good spot to get at the snake so I called to my two Deputies to circle the rock from a different direction. As they worked their way around the rock, I noticed that, as the snake kept turning its head, several straw-like objects protruded from its jaw. After killing and examining the rattler, we found that the objects were porcupine quills. My guess is that a "porky" came ambling along over that rock too close and the rattler up and belted it one—with not the least bit of harm to the "quill pig."

On June 24th I was on patrol in the vicinity of Mason Hill when I came across a rattler in the road. On examining it, I found that it had eaten a young turkey. This experience has settled all doubt in my mind about rattlers eating young turkeys and young grouse. I have been asked for an opinion on it many times. This snake was only 35 inches long.—Game Protector Norm Erickson, Emporium.

Night Lighting—No Deer

PENFIELD—I was told by a friend in Penfield that deer were making forays on his crops. In order to keep them away, he placed several electric lights in the middle of his garden where they were kept burning at night. Up to the time the story was related to me, the deer had stayed away. — Student Officer Joseph Maholtz, Ross Leffler School of Conservation.

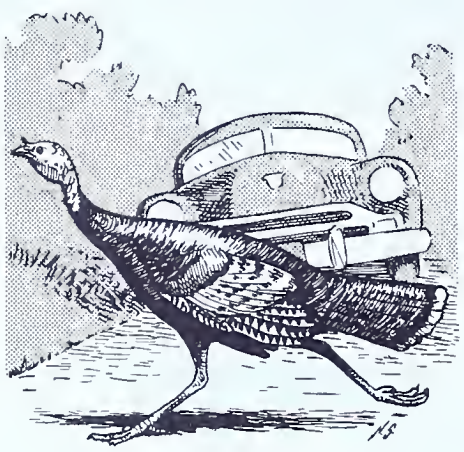


Right of Way

MONTOURSVILLE — While fishing along the Loyalsock Creek in Lycoming County during June, I made a sharp turn around a rock and came face to face with a raccoon. I don't know who was more surprised, the raccoon or myself. I was standing directly in the path he wanted to travel and we stared each other in the eye at two paces. The raccoon had no intention of backing up. His tail was up and his teeth were bared. In fact, I thought for a second that he was going to climb all over me. Discretion is still the better part of valor, however, so I stepped aside and watched the raccoon take off up the path.—Student Officer Charles Keiper, Ross Leffler School of Conservation.

Baled Bunny

UNIONDALE—Edward J. Ridball, R. D. 1, Uniondale, told me recently that while he was putting baled hay in his barn this summer, he heard a squealing noise coming from one of the bales. He investigated and found a rabbit in the bale. It was quickly released, apparently none the worse for wear.—Game Protector John Putnam, Montrose.



"Careful Driver", Cause For Regret

PATTON—Residents of Patton and vicinity have been seeing wild turkeys on one of the roads near State Game Lands 108. On the morning of June 17 a certain individual who lives in that section, with some very "careful driving," managed to hit them with his car. In fact he was so careful that he forced two other cars from the highway in his efforts. When a search of his residence revealed one of the turkeys in his refrigerator, he suddenly decided that it might have been better to give some thought to the "Give Game A Brake" signs erected in that section. —Game Protector Jack DeLong, Ebensburg.

One in Eighteen Thousand

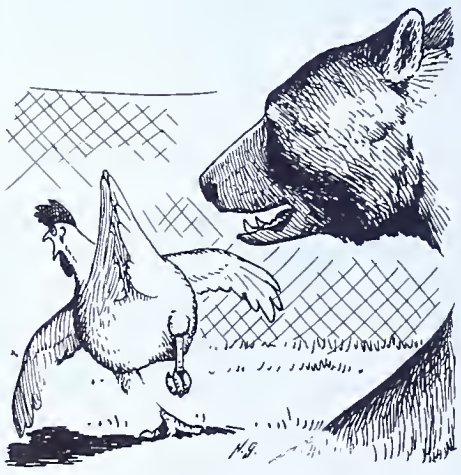
SCHWENKSVILLE—While removing a hatch of ringneck pheasant chicks at the Eastern Game Farm in June, one true albino chick was found. According to Superintendent Warfel a true albino chick shows up on an average of about once in 18,000 eggs. Several white chicks may be found in each hatch but usually they do not have the pink eyes found in the true albino.—Student Officer Donald T. Croft, Ross Leffler School of Conservation.

Snow In July

MECHANICSBURG — While traveling through Memorial Park in Mechanicsburg late in July I heard a loud cawing. Looking up, I saw two large crows chasing a Snowy Owl which was having a hard time keeping away from the two "black bandits." I watched them for a while until they disappeared over the tree tops, flying southeastward.—Carl B. Straub, Mechanicsburg.

Big Bad Bear

PHILIPSBURG—On June 2 we had some bear damage near Philipsburg. The bear was around several homes for a few days and had the residents somewhat scared. One day it was chasing large chickens in back of a home. Another evening it went up on a porch, tipped over a bucket and ate some corn. Then on June 2, it killed four tame rabbits in a cage about 30 feet behind one of the houses. It also tore a hole in a chicken pen and destroyed 38 half-grown chickens at the same place. When it paid a second visit to this place for more chicken dinner, the owner shot it. All of the neighbors slept better that night.—Game Protector Clyde Decker, Philipsburg.





Hunt Safely Week Established

October 23-28

IN A STATEMENT as this issue went to press, Governor James H. Duff said: "Mindful of the danger as well as the enjoyment that accompanies the sport of hunting, it is important that hunters realize their responsibility to others and themselves when they go out in pursuit of wildlife.

"Hunting casualities are the result of greed, carelessness, recklessness, a disregard for the other fellow's welfare, or ignorance in handling firearms.

"Some persons drive at dangerous speed to their hunting grounds; others mix alcohol with gunpowder; and many are so anxious for game they disregard common-sense rules for safety. Boys, and older persons too, often go hunting before learning the rudiments of proper gun handling and without a realization of the danger of firearms.

"Pennsylvania's hunter toll can and should be reduced. In this great Commonwealth, famous for its hunting in bountiful farm lands and beautiful mountain country, human lives need not be sacrificed for sport, families need not grieve for those lost to peace-time shooting, and many of this season's hunters need not go through life crippled or maimed. To prevent casualties, it is necessary to understand the hunting weapon and to practice the rules of safety.

"I should like, therefore, to set aside the period of October 23 through October 28, 1950, as 'Hunt Safely Week.' I recommend that the Pennsylvania Game Commission, sportsmen's organizations, schools, and other groups and individuals participate in teaching firearms and hunting safety prior to the game seasons, so that injuries and fatalities in the future will be eliminated, or at least kept to a minimum.

"I also recommend that all hunters be sure of their target before firing; that they wear bright red and take every possible safety precaution while afield. Hunting accidents do not happen—they are caused."

PROJECT FOOD PLOTS FOR WILDLIFE

During the twelve-month period ending the 31st of May, 258 food plots totaling 150 acres were planted by Game Commission employes on Farm-Game project properties. In addition, 1104 food plots totaling 372 acres were purchased from cooperating landowners and allowed to remain unharvested as food for game during the critical winter period.





Commissioner Robert Lamberton, Franklin, expressing his appreciation for the honor paid him at the Pymatuning. Mrs. Jessie L. Hughes, daughter of Mr. Lamberton, unveiling the plaque.

Game Commissioner Honored

On August 20, Robert Lamberton, Vice-President of the Pennsylvania Game Commission, was signally honored at the Pymatuning Museum where a bronze plaque, inscribed "For His Interest and Guidance in the Development of the Pymatuning Refuge and Museum," was dedicated to him.

Under ideal weather conditions and in a beautiful setting, leading western Pennsylvania sportsmen, officers and other employes of the Game Commission and many conservation friends from over the Commonwealth joined in honoring Commissioner Lamberton on this occasion.

In their addresses, Commissioners Willson of Smethport and Williams of Stroudsburg paid high tribute to their associate, emphasizing the valuable contributions he has freely made to wildlife conservation in Pennsylvania.

Seth Myers, Secretary of the Northwest Division, Pennsylvania Federation of Sportsmen's Clubs, acted as Master of Ceremonies. Earl B. Walker, President of the Northwestern Sportsmen, presented the plaque for his organization. Raymond Armstrong, Vice-President of the Pennsylvania Federation of Sportsmen's Clubs addressed the assemblage, attesting to the esteem his organization holds for Commissioner Lamberton.



Wildlife Housekeeping

By Grace O. Beach

OCTOBER is a glorious month. The landscape is riotous with color and the air has a wine-like quality—a tang that is exhilarating as nature takes one last fling before going into repose. Our emotions run the gamut—delight in the painted landscape, an underlying tone of sadness for the dying season and the hope that springs eternal with the promise of a new spring and the new life to come.

Fields and forests are filled with wildlife creatures busily engaged in living. Like humans, they have a pattern of existence. As one moves quietly through their domain, it will be noted that the summer fur of the animals and the feathers of many of our non-migratory birds have undergone a change. A new color scheme has become the style to better adapt them for blending into the changing background of the winter months. Nature's method of protection for her children is more apparent.

During the first few days of October the heavy frosts kill most of the ticks and other external parasites which plague these creatures during the summer months.

The last brood of squirrels are now self-sustaining. Nuts and berries become their most utilized foods, and they spend much of their time scurrying to and fro gathering and storing their winter supply.

In the deer family the fawns are weaned about mid-month and those white spots have almost completely disappeared. Slashed and girdled saplings will be seen beneath which the fresh pawed earth and the imprint of hoof marks are mute evidence that here bucks have been engaged in removing the velvet and polishing their antlers to a shining smoothness.

The bears have put on a heavy layer of fat and spend most of their time these days in search of food, building up that last bit of energy needed to carry them through the hibernation period during which they eat no food.

Against the sky will be silhouetted the wedge-shaped formations of wild ducks and geese moving along their Atlantic flyway to the southland. One can hear them chattering and calling encouragement to one another as they make their long flight.

Silently in the night, bands of little woodcocks will slip past unseen on their journey to a warmer climate.

Busy days, these, on the October wildlife calendar.

Lady Take A Bow

When a woman unties her apron strings and picks up a gun for a little hunting trip, anything can happen. As one newspaper scribe puts it: "She can shoot her way into the higher brackets of big game hunting."

Mrs. Laddie Sanford, wife of the famous polo player, proved the point recently when, single handed, she bagged a record-size Kodiak Bear on the Bigger Anamak Island of Naknek, Alaska.

According to reports she started tracking the huge animal about 9:00 a.m. and followed it on foot 'til she caught up with it about 3:30 in

the afternoon. Her first shot was taken at a range of about 150 yards, wounding the bear. The enraged beast kept coming straight at her but the lady stood her ground, pumping bullets into the animal until it dropped almost at her feet. The trophy measured 10 feet 10 inches in length. The head went 18 inches in diameter, just one inch short of the all time record for Kodiaks. What a rug!

The party included Mr. and Mrs. Sanford and Larry and Bobby Sheerin. They were the second hunting party ever to visit this part of the wilderness. We have a sneaking suspicion the husband is mighty proud of the little woman.

The Ducks Fly High

Although Pennsylvania cannot produce a "bumper" crop of waterfowl during the summer months because of limitations in our water area, we get a fine share of the Atlantic flyway's migrants in the fall as the birds wing their way south. While you await the coming of small game season, why not stir up your shooting partner to a little competition over the decoys or in the alder thickets this month. Organize a duck hunt or a woodcock party as a special event these wonderful October days. Don't forget to pick up a waterfowl stamp at your local post office (no stamp is required if you are hunting woodcock, however), get out the shotguns, and let yourself in for some of the most thrilling sport in all outdoors. Duck hunting, especially, is a sport that lends itself well to feminine capabilities. It requires plenty of patience, the facility for sitting still long hours on end, and the ability to lead whistling wings with your sights and shot. If the jaunt turns out successfully, then here is how to fix your prize for good eating.



Roast Stuffed Duck—Apple-Celery Stuffing

Most outdoorsmen and outdoorswomen know the trick of pouring hot paraffin into the feathers of ducks to prevent the troublesome down from sticking to the birds as they are plucked. If you haven't tried it, do so now; it will save you a lot of painstaking picking. Your pride, the bird, should be prepared the day before roasting. Wipe him inside and out with a cloth soaked in vinegar and about 15 minutes later, rub the duck with salt and pepper. Then put the bird away in a cool place until you're ready to roast it the following day. As with most bird roasts, the stuffing really makes the taste. Here's a favorite that will rate you more duck hunting with the head of the house any day. Mix equal parts of chopped apples, celery and stale bread crumbs. Season with salt and pepper, moisten with water. Stuff the duck, lay bacon strips over the breast, and roast. Add one-half cup sherry when nearly done. Next remove the duck from the pan, add one cup of mushroom soup to the gravy. Thicken with flour, season and serve. Then sit back and watch that gleam of pride and contentment appear in the eyes of your "customers."



Dear Sir:

At a recent meeting of the Sportsmen's Clubs of Forest County, it was unanimously agreed by all not to oppose the two-day open Doe Season for 1950 as declared by the Pennsylvania Game Commission.

We must admit that for the best interest of all parties concerned, the sportsmen, the farmers and the motorists, the deer herd must be reduced to maintain a healthier situation. This year's two-day open season may not be the perfect answer to a very debatable question, but surely it has its merits in eliminating the ugly situation of a concentrated one-day kill.

Therefore, we stand ready at all times to defend a ruling by the Game Commission that we feel is in the best interest of all parties concerned with the same equal vigor that we have opposed rulings in the past that we felt were not to the best interest of all.

Yours very truly,

FOREST COUNTY COUNCIL of
Pennsylvania Federation of Sportsmen
James R. Farrell, President
Jos. H. Douglas, Secretary

———

Dear Sir:

For some time I have been thinking of a plan which could possibly be put into practice here in Pennsylvania to the advantage of both the hunter and the state. Since industry pensions its workmen at the age of 65, why couldn't the state do something like this for the old hunters? Inasmuch as the workmen in most cases contributes toward his pension, through some plan or another, it would be no more than right that there should be some conditions to be met in order to be eligible for the "Lifetime License for veteran hunters" which I have in mind.

As the plan now shapes up in my mind, a hunter would have to be 65 years of age or older, a resident of Pennsylvania, and he must have taken out at least 30 regular resident or non-resident licenses in his lifetime. Then, when he applies for his "liftime" license, he could be charged the same price for it as for the regular resident hunter's license. The "lifetime" license, however, would have a gold star, or some other suitable mark of distinction, stamped on it.

Another requirement would be that the hunter must never have had his license revoked nor been convicted of a Game Law violation. The rules governing eligibility for this "lifetime" license should bar anyone who had been convicted of hunting without a license, exceeding the bag limit, or hunting game out of season. A "lifetime" license would therefore be a sort of badge of honor, indicating that the hunter had been a law abiding sportsman for at least 30 years. Of course, this license would entile the holder to hunt in Pennsylvania as long as he lived without any additional fee, the holder being subject to all the game laws and regulations just the same as holders of regular hunting licenses.

Sincerely,
Raymond Holsapple,
Bentleyville, Pa.



Handling Game

By Herbert Kendrick

THE primary purpose in life of a gun dog is the successful handling of game. He is a specialist in the field because he makes it possible for his master to determine the location of a bird allowing the gunner ample time to reach the scene and prepare himself for a clean kill. No matter how efficiently a dog may search and locate game, he cannot be classed as a finished gun dog unless he possesses a thorough knowledge of bird habits. characteristics and understands the distance to approach—close enough to make the bird sit tight, yet far enough to prevent a flush. Speed, endurance, heart and courage, stylish points and gentlemanly backing are wonderful qualities in a dog that contribute greatly to field perfection, yet an animal with all the class in the book will fail to warm your heart unless he has been bred, trained and experienced in the fine art of game handling.

Bird dogs are as individualistic as people and are as different as thumb prints. This is especially true in the manner in which they point their game. One may point fifty feet from the bird and another dog equally as good may point almost on top of his quarry. The element of time, weather conditions, locality, cover and general game disturbances will vary the technique used by pointing dogs; however, the greatest variation is brought about by the game bird itself. The grouse requires entirely different handling from the ringneck and quail, woodcock, prairie chickens and sharp tails all require individual pointing attention if a hunt is to be highly successful and pleasing. It is easy to understand why we cannot expect a single bird dog to efficiently work on all upland game birds when we study the birds sufficiently, even if locality and cover were the same. Once in a great while we find a rare canine great that possesses the brains and adjustability to handle them all; however, such cases are very few and far between.

A game bird that has managed to escape hungry predators, lives through adverse weather conditions and dodge scatter gun loads long enough to become full grown, acquires a powerful amount of experience and education in ways and means to fully protect himself. He becomes a wise ol' bird who can make it very difficult for our best dogs to handle.

Once in West Virginia, I had the rare opportunity of witnessing a ruffed grouse being pointed by my setter dog. In all my years of bird hunting I have never seen anything to compare with the performance of that bird in the woods on that warm November afternoon. I sat down on a small bank beside a clear path on an old tote road and leaned back against a tree for a much needed rest while my dog was returning to my whistle. As he came running down the path toward me, I saw him snap into a beautiful point and I knew he had a nose full of scent. About twenty-five feet in front of his accurate nose, I saw the grouse in the naked open path between him and me. The bird dropped his wings down low to the ground and his beady excited eyes and noble head turned quickly and

unevenly in all directions. Silently, yet like a flash, he made for cover under the nearest spruce branches that hung down to the ground. So quickly was his dash that it was almost a blur. Around the tree were sufficient leaves to hid him. The dog moved a few steps toward the hidden bird and locked up tightly. He seemed sure the bird was thoroughly satisfied with his cover. Somehow, I had a feeling I should keep my eyes on the bird and forget the gun this one time.. While the dog remained staunch, I saw ol' ruff sneak out from under the tree, silently and deliberately, creep through the brush, leaves and briers and make his way to the bank of the creek that paralleled the path. He passed from my sight at the creek and a few seconds later he flushed about thirty yards down the creek when I stood up and noised the leaves.

My dog has hunted grouse almost exclusively for seven seasons of his eight years and there before my very eyes I had actually seen a bird completely baffle him. Hereafter, I shall remember that trickery when a dog has an unproductive point and I shall be more profoundly conscious of his ability when I flush a grouse from his point.

To make a grouse hold to the point, the dog must be fast, bold and accurate, approaching his game confidently and with the minimum of "game making." This decisive action seems to either charm or bewilder the bird, thus the dog can pin him down while he fears to run or fly until the hunter approaches. The pointer or setter that successfully points and holds this most difficult of all game birds is a rare treasure indeed.

The ringneck is a running bird and is also a task for the pointing dog. Many worthwhile dogs use the "roading system" to follow the pheasant until it reaches heavy cover.

The quail synchronizes most perfectly with the pointing dog and normally will lie quietly to a point. Bob white is the bird on which to train the young dog, because he behaves rather nicely in the field. I have seen quail in swampy woodland cover that proved exceptions to the rule; however, I do feel the quail is by far the easiest of game birds for the dog to handle.

Woodcock lie close under most conditions, but still they require delicate handling by seasoned, experienced woodcock dogs. So many good bird dogs will refuse to either point or retrieve a woodcock.

We can train our dogs in the yard and break them with pigeons or other artificial game, but true greatness in our canine friends can come only from actual experience in the woods and fields handling wild, smart, elusive game birds.



Herbert Kendrick

Editor's Note: Although column editors Kendrick and Shearer have many of the same outdoor interests, they are not interchangeable. The pictures of these two men were inadvertently transposed in the September issue. We apologize for the error and return them both to their own columns with this issue.



By Ed Shearer

What Shot Size?

OCTOBER is that raucous, blazoning month of color that exerts a powerful psychological influence on the thoughts and behavior of the average scatter-gunner. Even as the mad moon penetrates some hidden recess in the brain of a buck or a grouse, causing them to act in an erratic manner contrary to all laws of nature, so are many otherwise sane and staid citizens yanked from the even tenor of their ways to carry on in a highly unnatural manner.

Brides debate the advisability of calling in the family doctor. The veteran wife, however, cocking an experienced eye at the high riding moon, merely removes everything breakable from the vicinity of the guns, appropriates the check book, and remarks, "You're five days late, Dear. Last year at this time you had already killed three vases and two pictures." Finally, when the dog thrusts a cold, wet muzzle in your face without even a mild protest on your part, another hunting season has slipped up and clasped you in its firm embrace.

Arriving with the new season are the perennial arguments over guns, shells, shot size, patterns and what not. Probably the greatest number of questions center around the proper shot size to use for various species of game. We'll try to give a clear picture of the performance of various sizes of shot, both in flight and on game, in accordance with the latest research and practical results in the field.

To begin with, it is best to consider the shot pellet itself. Basically, the disadvantages and advantages of shot pellets remain constant regardless of the size shot used. The individual shot pellet is spherical in shape, a form of projectile that is as old as man and was first used when some prehistoric hunter picked up a round pebble for his slingshot. There is no doubt that a spherical projectile has a greater area in cross section for any given weight than any other shape. It therefore destroys more animal tissue during penetration than any other projectile. This same characteristic, however, goes far to offset its advantages. The spherical shape causes this projectile to meet with more resistance as it passes through the air. Now the resistance of air to an object passing through it is not in direct proportion to the velocity of the object. In fact, as an object increases its speed traveling through the air, the air resistance may be several times greater than that encountered in a proportionate lower velocity.

The books tell us the speed of sound varies according to temperature. At sea level this speed is given as about 1,100 feet per second. When this speed is approached by any object, be it airplane or projectile, a sound wave is generated which requires additional energy to produce. The resistance of the air increases from the "third power" of the velocity below 970 feet per second, or subsonic velocity, to the "fifth power" or transonic velocity. This resistance is maintained until a velocity of 1,230 feet per second is reached. Then air resistance drops back to the third power of the velocity. This, briefly, explains why some lower velocity projectiles are better "wind buckers" than others of higher velocity.

Now let's see how the above "mumbo jumbo" works out on a scared rabbit rapidly fading from the

landscape. For example, take a load of Number 7½ shot fired from a gun with a muzzle velocity of 1,600 feet per second. When it gets out to the 45-yard mark, believe it or not, that load of shot is amblin' along at only 590 feet per second. Then we fire the same load from the same gun but this time at a muzzle velocity of only 1,185 feet per second. Now at the same 45-yard mark, we find this load ramblin' right along at a speed of about 515 feet per second. So it's here that the "high speed—kill 'em a mile" advocates receive the first rude jolt in their dreams.

The facts seem to indicate this: At over 40 yards the high power loads have less than a 10% edge over the standard velocity loads due to a higher rate of loss of velocity, a widening of the shot pattern at the greater distance, and, certainly, more deformed pellets from the higher powder pressure necessary to start the shot out faster. You can make a lucky kill just as far as a pellet of shot retains sufficient velocity to penetrate a vital spot, but don't put the pan over the fire on the strength of it.

In the small sizes of shot the standard skeet and trap loads will kill small game just as far and just as clean as the high speed loads, due to the factors set forth above. Ballistic research has shown that the most even, dense and effective patterns are produced with various sizes of shot, when fired from any gauge or choke, at about a minimum muzzle velocity of 1,275 feet per second. This rule applies to Number 9 shot. Allow about a 25 feet per second increase for every size larger up to a maximum of 1,500 feet per second for BB's.

There are a lot of hunters who believe that large shot will always kill game at a longer range than small shot. This doesn't always work out that way. There has been much research on wounds since the first study by Western Cartridge Company some years ago. Study of the effects of single and multiple wounds in birds of all sizes indicates the killing power of wounds is in proportion to the square of the number of similar types and sizes of wounds inflicted. For example, two separate wounds affecting the same quantity and quality of tissue have four times the effect of one wound covering the same area and depth. Therefore, small shot at distances at which energy and penetration are still great enough to penetrate the vital organs will probably inflict two or three times more damage than one shot, or pellet, two or three times as large.

The moral of the story, of course, is that if large shot limits the pellets to a sketchy pattern at a distance where small shot would still retain sufficient energy and penetration to do the job, you're only handicapping yourself by using the larger shot. To quote Junker Monaghan, a famous grouse shot in days of yore, "It ain't what you throw at 'em—it's what you hit 'em with." Junker is now a legend and has been doing his hunting across the dark river for some years, but his words are as true today as then.

It can be seen that a balance between range, shot size and weight of charge must be attained to assure maximum killing power when shooting game with properly choked guns, regardless of gauge. For example, a three-quarter ounce load of Number 6 shot fired from a full choked gun will kill small sized game such as quail and doves on the wing consistently and medium sized game such as grouse and rabbits at 45 yards. But so will 7 and 7½ chilled shot at the same range with a much denser pattern. Even Numbers 8 and 9 shot have sufficient velocity to penetrate a large fowl's vital organs at 35 yards. Take a duck on the water. Number 9 shot would be a far better bet within its velocity range than large shot, sim-

ply because of the greater number of chances it has to land in the head, neck or spine of the duck. Old records substantiate the fact that this was a favorite shot size among old-time market hunters for this very reason.

On the other hand, if the charge is limited to three-quarter ounces, the pattern is likely to miss a small bird entirely beyond 35 yards. It will penetrate as deeply at almost twice the range of Number 9, however. Boiled down it all works out this way. Never use a load that will not give you four or five body hits at the range you are shooting on a particular size of game. Use the smallest size shot that will give adequate penetration at this range, thus preserving the density of your pattern. Always remember that, when you run out of a killing pattern, you are out of range. Misses and cripples are the inevitable result.

Again let me repeat, "It ain't what you throw at 'em—it's what you hit 'em with."



Ed Shearer

RESULTS OF FIRST QUAIL HARDENING PENS ENCOURAGING

Following the severe winter of 1935-36, bobwhite quail failed to come back in Pennsylvania and in other states, even where they were extensively stocked.

In a determined effort to re-establish this game bird, the Pennsylvania Game Commission this spring inaugurated a plan to harden pen-raised quail to the wild, with the hope that liberated bobwhite brood stock would survive in future and propagate naturally.

A hasty evaluation of the Game Commission's new bobwhite quail program indicates that the management practices now employed may overcome problems experienced in the past. While it is too early to prophesy as to the effectiveness of the new program the following report by Game Proector W. J. Brion, Kittanning, is most encouraging, if not indicative.

Brion says: "On May 24th, each of the quail hardening pens erected within Commission-sponsored rabbit farms in the townships of Valley, Cowanshannock and Wayne was stocked with 15 pairs of game farm quail. Flight feathers were removed to prevent, for a while, their flying over the wire. At the time of stocking, water, and feed of the type supplied at the game farm, were placed in each pen. The amount of feed was gradually reduced, causing the quail more and more to seek natural food.

"When first stocked, the birds were quite tame. They depended almost entirely on the food and water served them. After the first week the quail used less of the food and water provided. They appeared to be securing these necessities from natural sources.



Laurel Ridge Sportsman's Association

The Laurel Ridge Sportsman's Association, of Somerset, reports a tremendous growth in membership and activities. From a club of 300 members three years ago, this Association has now enrolled over 1,200 members. The Association has increased the number of ringneck pheasants raised from 200 the first year to 1,000 this year and plans to raise 1,200 in 1951. Nearly 250 bushels of grain were fed to wildlife last winter and the group has also planted many acres of food plots throughout the county, mostly corn and buckwheat. The Association has completed two dams and stocked the resulting lakes which will be open to public fishing next year. The club plans a cooperative program with local area scout troops. One of the projects involves the construction of winter feeders for wildlife, the club furnishing the material and the scouts the labor. Under the leadership of president N. B. Picking, a long range program has been established to help make conservation succeed throughout their county and Commonwealth.

Sayre Sportsmen's Club

Purchase of 110 acres of land near Athens by the Sayre Sportsmen's Club and plans for its development as a recreational area were announced recently by club officials. The purchase was made by a committee headed by Ernest Parks using contributions from about 150 members of the organization. The land offers facilities for construction of a 200 yard rifle range with a high hill backstop, locations for trap and skeet shooting, and picnic grounds. A stream running through the property offers possibilities of providing an excellent fishing pond and plans also include a skiing and tobogganing slope.

Etna Sportsmen's Club

The Etna Sportsmen's Club added pheasant raising to its program this year for the first time. Ernest Dorrier, club secretary, reports the project was highly successful, about 88 per cent of the birds being raised to the eight week old stage. The club constructed the pheasant pen on the farm of one of the members. It is located on a hillside which otherwise would have been a waste area on the farm but which afforded an excellent site for pheasant propagation. The slope of the hill insured good drainage and trees and brush covering the area offered excellent shade for the birds. The pen was built of 1½ inch galvanized pipe uprights set about eight feet apart and welded at the joints. A brooder-house ten feet square was made of used lumber purchased at a reasonable cost. Total cost of the propagation facilities amounted to about $800 but club officials report a tremendous return on the investment. The propagation pen has attracted more new members than at any time in the past three years and club meetings are better attended.

Middletown Anglers and Hunters Association

From a start of 35 members in 1936, the Middletown Anglers and Hunters Association has grown rapidly and now list 1,024 members on the rolls. The club started the construction of a club house in 1948 with only $500 in the treasury but through donations of both materials, labor and money, the fine 100 feet long structure is now complete. A field archery course, approved by the National Field Archery Association, has also been added. Other club facilities include a small bore indoor range with four shooting positions, regular outdoor trap range, and a nearly completed 100 yard outdoor rifle range.

Consolidated Sportsmen of Lycoming County

The Consolidated Sportsmen are aiming at a total membership of 12,000 for 1950. They hope to enroll 10,000 senior members and 2,000 junior members. A film depicting the activities of the juniors has been shown to more than 8,000 persons in both the United States and Canada. The film was made by members Jim Sheffer, Walt Colley and Charles Noll and is available to other clubs providing they pay transportation costs.



More than 285 contestants from 23 states, the District of Columbia, and Canada participated in the 66th Annual Archery Championships of the National Archery Association. The tournament was held on the Franklin & Marshall College campus in Lancaster early in August. In shooting more than 500 arrows necessary to go through the entire five-day tournament, the average archer pulled more than 11 tons. Shown above are Mr. and Mrs. F. G. Haines, of Warren. Mrs. Haines established a new world record in the 50 pound class by shooting an arrow 505 yards.



Treating Traps Right

By L. J. Kopp

OCTOBER is a busy month for trappers. For many of our Penn's Woods' fur trappers it marks the beginning of another trapping season. Others are busy with last minute preparations on the trail; and all trappers will be found in the process of treating traps which are intended to be set for fox, coon, or mink.

The proper treatment of traps, which takes place several weeks before they are to be set, is an important operation. Further, it requires only a comparatively small amount of time, and costs very little. It is simply a matter of cooking your traps, adding the proper seasoning, and letting them broil, stew, or just boil until they are done. Instead of eating them however, you set them out for fox.

An old wash boiler, or even a clean lard can may be used as a container for the purpose of cooking traps. This wash boiler or can is then placed upon two small logs which are spaced far enough apart so that a fire can be built underneath the boiler.

All new traps which have a thin coating of rust-preventing oil on them, as well as rusty traps or traps which have any trace of skunk scent on them must first be cooked in a solution of water and lye. Red seal lye is practical for this purpose. The traps are cooked for about an hour, after which they are taken out of the container and are thoroughly rinsed in clean cold water.

The wash boiler is emptied and rinsed with clean water, then the operation begins all over again, only in a different manner. This first cooking operation is done merely to rermove all trace of foreign odor from the traps. The next step is to color and wax the traps.

Fill the container with water, and add a handful or two of walnut hulls. Other items which may be used to color traps include: Sumac tops, bark or leaves from maple trees, and a commercially prepared product called log-wood crystals. It is not necessary, however, to buy anything, since these other items like walnut hulls do just as fine a job.

Before inserting the traps it is a good idea to press down the trap springs, spread the jaws and insert a small nail between the jaws. This is done so that the inside of trap jaws are also colored, and waxed.

When placing the traps into the boiler, start at one end and place in one trap after the other. Grasp the end of your trap stake, lift up the trap and let it sink down into the solution. Leave the stake standing up along the side of the wash boiler so that about two inches or so will stick out above the water. Proceed in this manner until all your traps have been placed into the solution.

While you are at it, it is a good idea also to place your trowel, small camp ax, sifter, etc. into the solution on top of the traps. Bring the whole mess to a boil, and let it boil for several hours.

After several hours, the trowel, ax, and sifter may be taken out, and placed in your pack basket, or anywhere out of reach of cats or dogs. These tools need not be waxed, nor is it necessary that they be handled with rubber gloves.

While you are waiting for the traps to reach the desired dark color, take a piece of wax paper and cut a small chunk of bees wax into small bits on this wax paper.

If you do not have bees wax, paraffin will do. However bees wax is the better of the two, since it will not crack and peel on the traps as readily as will paraffin. Some trappers use a combination of both paraffin and bees wax, where an equal amount of each is mixed in.

The solution is kept at the boiling point until the traps have acquired a dark brown or bluish looking color.

The next step is to wax the traps. To do this remove excess wood or fire from under the boiler, and let the water cool down to where it only simmers. At this point drop your cut-up wax into the still hot water and give it several minutes time to melt and spread over the entire surface of the water. Meantime, put on your rubber gloves and while you have them on, wash them in clean water before handling the traps.

You are now ready to put the traps through their final stage of treatment. Grasp the end of the stake which you left sticking out of the solution, and pull the trap out slowly. Shake it just a bit, then carry it away and hang it up on a tree, or on a nail along the side of the nearby building where it will dry and air out thoroughly. If you will begin this waxing operation with the trap which you placed into the solution last, you should have no trouble with traps getting tangled up while removing them. After all the traps have been removed in this manner,

An old wash boiler set upon two small logs as shown is an ideal way of cooking traps.



check them to see that all have a good coating of wax. This can easily be noted after the wax has hardened. Those which do not seem to be sufficiently waxed may be taken and again dipped into the solution.

There are two good reasons for this important trap cooking operation. First, a dark colored trap is not as easily noticed by an animal as is a new shiny trap; Second, the coating of wax helps to prevent rust when a trap is setting in the ground for any length of time.

Traps treated in this manner are also fairly free from human odor, or any odor which animals like the fox might shy away from.

As mentioned earlier, this month marks the beginning of another trapping season for many trappers. By the end of the month, fox trapping will be well under way, and some trappers may already have the rafters bending the fur shed where the fox and coon pelts are hung up. Also the coon season opens on October 16 this year. Coon and fox trapping go pretty well together, since both fur bearers can be trapped in the same type of set. There is a difference as to where sets are made for either animal. Fox traps are usually set in open fields, while coon sets usually are more productive in the woods. There is also a difference in the kind of bait and scent to be used. Among trappers today it is generally agreed that to buy some of these commercially prepared baits and scents is cheaper, and more helpful, than to attempt to prepare your own bait or scent. However there are a number of baits which can be used, and which do not cost anything. Chicken entrails for example can be used for both fox and coon trapping. Mice are good fox bait. On the other hand there is nothing wrong with using honey for coon bait.

The standard dirt hole set is used in the trapping of both fox and coon. The only difference is that where you want to make the set especially for either of the two, the location, and the kind of bait has to be considered. Generally speaking however, it is very possible that a coon will be caught where you made the set especially for fox, and vise versa. A good deal depends on which of the two animals happens to come close enough to your set first.

With this in mind it is a wise idea to be careful when making a set for coon. Do not become careless and think it impossible for a fox to become caught at that set. The best way is to take your time and make all your sets as though you wanted to catch a fox in each one.

It is well known that coon spend much time travelling along streams in search of crawfish, mussels, and fish. Probably the larger percentage of coon trapped in Pennsylvania are caught in sets along our many miles of small streams, with emphasis on farmland sections.

Two types of sets may be made along streams. The dirt hole set can be made on top of stream banks, and as far as twenty or more feet away from the stream proper.

The other is what is called the blind set. This involves setting your trap in water, along the stream at a point where a coon is forced to enter the water in order to get around a rock, or the base of a tree along the edge of the stream.

Many such spots can be found along streams, and in most cases a close look will reveal coon tracks in the mud leading up to the water's edge; from there you will no doubt notice coon tracks in the mud under the water where "mister coon" was obliged to get his feet wet in order to get around the object in his way. As soon as he has worked himself around the object, you will invariably see his tracks continued in the mud on the other side. This then is the

ideal place for a coon set. A coon does not ordinarily walk in the water along a stream except where he is forced to do so, or when something out in the stream attracts his attention. At such places you will be able to detect his tracks in as much as eight inches of water, depending upon the size of the coon. A very large coon has pretty long legs, and if it is muddy you will see his tracks in as much as ten or more inches of water. As the water becomes deeper, he will commence to swim in order to reach his objective. Then too, he may have lost interest in whatever attracted him and in this case you will see where he again headed back to shore.

The point which I would like you to understand is that a coon has long legs and can walk in fairly deep water. Bear this in mind when making a coon set and at a spot where he is forced to enter the water, set your trap under at least five or six inches of water.

In this way you will have an excellent chance of catching the coon, and at the same time you will avoid catching illegal muskrats since the muskrat will swim over the trap and not be caught.



An excellent 'coon set may be made along streams where a tree or rock forces the animal to enter the water in order to get around it. Set trap in five or six inches of water.



Farm Ponds Unlimited

By John F. Blair

BEFORE starting this article, and in order to beat everyone to the punch, I want to disclaim any profession on my part of being an engineer of any kind, or of having had unlimited experience in building farm ponds. However, from close association with Ray Shaver, Farm Game Area Leader in northwestern Pennsylvania and with Bill Whetzel and "Red" Snyder, Soil Conservation men who are doing a bang-up job of promoting farm ponds in Indiana County, and from talking with farmers who have had the initiative to build a farm pond, I am thoroughly convinced that the farm pond has a definite place in the conservation picture of today and tomorrow.

The farm pond pays its way in one or more of several different manners. When properly located in the immediate proximity of buildings, it provides a readily available supply of water for fire protection. Many farm buildings worth thousands of dollars, filled with grain and farming equipment, have burned to the ground because there was insufficient water available after a fire company, answering the alarm, had reached the spot. Then, especially in dry seasons, a small farm pond has saved the farmer from endless hours of hauling water for stock and spraying purposes. Many of you who can remember back forty or fifty years will recall streams that at that time flowed the year round but today go completely dry almost every summer. We are told that this is caused by the lowering of the water table—the strata under the surface to which a well must be sunk to find water. One of the causes of this dropping has been the removal of the timber which held the water in the soil. However, sufficient rain does fall each year which, impounded by a farm pond, would eliminate this hauling water chore.

The farm pond properly managed will pay its way many times during a period of years just for recreational purposes. A swimming pool right in the dooryard! How many of you can remember "the old swimmin' hole"? For me it was the big tree hole under a huge sycamore about a mile west of Waynesburg. A bunch of us kids would trudge that mile in the hot summer sun, begin to undress at least a hundred yards from the stream, and, then, somebody would yell, "the last one in is a nigger baby." There followed a couple of hours of swimming and splashing and dousing each other and then someone would yell, "green apples is ripe." When you came out of the water, your socks and shirtsleeves and galluses would be tied in hard knots. To have that "swimmin' hole" in the back yard after a hot day in the hay field might not turn back time in its flight, but I believe it would stop the clock for a little while.

Properly stocked with the right number of bluegills and largemouth bass and fertilized every two years, many a happy evening can be spent with a fishing rod on the bank of a farm pond. I wouldn't be surprised if the boys and maybe the girls would rather spend an evening now and

then flipping a dry fly out over the smooth blue surface of such a pond than spend it burning up the roads in an automobile or going to the outdoor theater. Once experienced, there is a thrill all its own in seeing a fish rush to the surface and feeling the tug on the line as you set the hook in a fish that has risen to the lure. A one year old bluegill should weigh five ounces and a bass a pound in a fertilized pond. On a four-ounce rod, either will give you a thrill. One acre of surface properly fertilized should produce 200 pounds of edible fish each year and will stand fishing whenever they will bite.

Last, but not least, a farm pond properly sodded is a thing of beauty and adds much to the value of any property.

From where I stand, it looks like both the landowner and the sportsman benefit from a farm pond. Most every farmer would like to have a farm pond, yet many of them do not have the necessary cash to build one. Many businessmen like to fish, have the cash, but no place to build the pond. Under ordinary circumstances a good one-acre pond should be built and stocked and fertilized for approximately five hundred dollars. Why would it not be a good thing for five friends to kick into a fund one hundred dollars each and build a farm pond? An agreement could be drawn up with the landowner that for a period of 22 years each stockholder could fish or swim in the pond whenever he liked and take one friend with him if he so desired. The farmer and his family would have the same rights in addition to the use of the pond for farm purposes. No fishing should be done until the second year. In this way the farmer would have his pond, the businessman would have his recreation, and the cost would be only five dollars a year. Moreover,

Both the landowner and sportsmen benefit from a farm pond. Under ordinary circumstances a good farm pond such as this can be built, stocked and fertilized for about five hundred dollars.

USCS Photo



that much more pure water would be checked in its mad rush to th ocean.

The first important step in building a farm pond is to find the best location. It should be convenient to buildings. It must have a tight subsoil. Water must be available. There are three different types of ponds, incidentally, based on their source of water.

The spring-fed pond is built where there is a year-round spring flowing enough water to fill the pond and to keep it full. All surface water is kept out. Sites like this are not too plentiful.

The by-pass pond is located in a valley and the main stream is made to run around the pond instead of through it. The pond itself is filled with water piped from a smaller dam across the stream far enough above the pond to fill the by-pass pond. Direct surface water is kept out by means of a diversion ditch on the slope above the pond. A two-inch intake pipe and a four-inch outlet pipe takes care of this type of pond except in an emergency. This type at present is the most popular type of farm pond for several reasons. It is more readily managed for fishing purposes. It has less possibility of being washed out and it is less likely to fill up with silt. Finally, it requires little emergency spillway.

The run-off pond was the one more commonly used until recently. It is made by simply throwing a small fill across a stream from bank to bank, thus impounding whatever water comes down the stream. Unless extreme care is taken to provide sufficient emergency spillway, this kind of pond runs a good chance of washing out in an unexpected flood. In Pennsylvania it is not necessary to have a permit to build such a pond unless more than 320 acres drain into the pond. If there are more than that number of acres, a permit must be obtained from the Department of Forests and Waters in Harrisburg.

An explanation of the actual laying out and construction of a farm pond requires more space than this column could justify and we would recommend that anyone expecting to build a farm pond get the following articles and study them carefully before starting any actual construction. There are a few mistakes which, once made, are almost irreparable and make the failure of your pond a strong probability. One bulletin is Circular No. 320, "Farm Pond Building," published by the School of Agriculture, State College, Pa. It may be had free of charge by contacting your County Agriculture Extension Agent. Secondly, we have Farmer's Bulletin No. 1983, U. S. Department of Agriculture, Washington, D. C. at a cost of ten cents to cover the mailing charges.

It is my belief that a little effort on our part to promote the method of cooperation already mentioned between the landowner and sportsman could well make a reality of a dream held by John M. Phillips, one of Pennsylvania's pioneer conservationists, who visualized "Farm Ponds Unlimited."

LOSE YOUR LICENSE?

If you should lose your hunting license or tag, play it safe—don't go afield before securing a replacement. Game Commission officials advise hunters who misplace their hunting "credentials" to return, if possible, to the agent who issued your original license and make application for a replacement. You should return any portion of the tag or license certificate which you still hold. A new license will be issued you at a cost of one dollar. If it is not possible for you to return to the original licensing agent, or make a written application to the Department of Revenue, Bureau of Miscellaneous Licenses, Harrisburg, Pa., it will be necessary to purchase a new license if you desire to hunt.

1950 Pennsylvania Open Seasons for Waterfowl and Other Migratory game Birds Under Federal and State Regulations

SPECIES	OPEN SEASONS FIRST DAY	LAST DAY	DAILY BAG LIMITS	MAXIMUM POSSESSION LIMITS*	LEGAL SHOOTING DAYS AND HOURS (SUNDAYS EXCEPTED) BOTH DATES INCL.	HOURS (EASTERN STANDARD TIME)
Sora	Sept. 1	Oct. 30	25	25	Sept. 1 to Oct. 12	½ hr. before sunrise to sunset
					Oct. 13 to Oct. 30	½ hr. before sunrise to 1 hr. before sunset
Rails (except sora) and Gallinules	Sept. 15	Nov. 13	15	15	Sept. 15 to Oct. 12	½ hr. before sunrise to sunset
					Oct. 13 to Oct. 31	½ hr. before sunrise to 1 hr. before sunset
					Nov. 1 only	9:00 a. m. to 1 hr. before sunset
					Nov. 2 to Nov. 13	7:00 a. m. to 1 hr. before sunset
Woodcock	Oct. 10	Nov. 8	4	8	Oct. 10 to Oct. 31	½ hr. before sunrise to sunset
					Nov. 1 only	9:00 a. m. to 5:00 p. m.
Doves	Oct. 10	Nov. 8	10	10	Nov. 2 to Nov. 8	7:00 a. m. to 5:00 p. m. but not after sunset
Ducks (except American and Red-breasted Mergansers)	Oct. 13	Nov. 21	4 (only 1 wood duck)	8 (only 1 wood duck)		
American and Red-breasted Mergansers	Oct. 13	Nov. 21	25	(any number after first day)	Oct. 13	12:00 o'clock Noon to 1 hr. before sunset
					Oct. 14 to Oct. 31	½ hr. before sunrise to 1 hr. before sunset
					Nov. 1 only	9:00 a. m. to 1 hr. before sunset
					Nov. 2 to Nov. 21	7:00 a. m. to 1 hr. before sunset
Geese (except Snow)	Oct. 13	Nov. 21	2**	2**	NOTE: NO OPEN SEASON—WILSON'S SNIPE (JACKSNIPE), SNOW GEESE, BRANT AND SWANS.	
Coots	Oct. 13	Nov. 21	15	15		

MIGRATORY BIRD HUNTING METHODS—Permitted: Shotgun only, not larger than 10-guage, fired from shoulder (including hand-operated repeating shotgun of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun); bow and arrow; dog; blind; boat propelled by hand; floating device other than sinkbox; artificial waterfowl decoys. Injured or dead waterfowl may be picked up by means of a motorboat, sailboat or other craft.—**Prohibited:** Automatic shotgun; hand-operated repeating shotgun of more than 3-shell capacity in magazine and chamber combined; all rifles; live duck or goose decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat, or any device towed by power boat or sailboat; the placing or distributing in any manner of corn, wheat, oats, or other grain or product thereof, salt, or any kind of food, whereby migratory game birds are attracted or lured; and taking of waterfowl by use of cattle, horses or mules. No motor-driven land, water or air conveyance or sailboat may be used to concentrate, drive, rally or stir up waterfowl or coots.—**FEDERAL STAMP FOR MIGRATORY BIRD HUNTING**—It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he carries on his person an unexpired Federal migratory bird-hunting stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. **This stamp is not required to hunt Doves, Woodcock, Rails and Gallinules, also Sora.**

EXCEPTIONS FOR SPECIAL AREAS: On the open waters of Lake Erie and the open tidal waters of the Delaware River lying within the Commonwealth from Trenton Falls to the Delaware State Line (not including inland tidal water), when shooting from boats or blinds at least 100 yards from shore or the shoreline of any peninsula or island within said Lake or River, the Federal one-half hour before sunrise to one hour before sunset regulation applies throughout the waterfowl season, except on November 1, when shooting before 9:00 a. m. is unlawful.

* Possession 90 days after close of season where taken.

** The daily bag must not contain more than two Canada Geese, but may in addition include 3 Blue Geese which is also maximum possession limit.

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Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

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SOUTHCENTRAL DIVISION—A. G. Logue, Supervisor, 327 Penn St., Huntingdon. Phone: 872
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NORTHWEST DIVISION—T. A. Reynolds, Supervisor, 14 W. 1st St., 2nd Floor, S.S., Oil City. Phone: 4-6281
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 331 E. Main St., Ligonier. Phone: 519
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

Pennsylvania Official 1950 Open Seasons and Bag Limits

(Federal Regulations on Waterfowl and Other Migratory Game Birds may be Secured from License Issuing Agents or Game Commission, when Available.)

Open season includes all dates listed, **Sundays excepted** for game. **On November 1 and November 27 no hunting of any kind before 9 a. m.** Except November 1 and November 27, shooting hours daily are 7 a. m. to 5 p. m. but from July 1 to September 30 inclusive, 6 a. m. to 7:30 p. m. (All shooting hours based on Eastern Standard Time.)

UPLAND GAME (Small Game Possession Limit Two Days' Bag After First Day)	Bag Limits Day	Season	Open Seasons First Day	Last Day
Quail, Bobwhite	4	12	Nov. 1	Nov. 15
Hungarian Partridges	2	8	Nov. 1	Nov. 15
Ruffed Grouse	2	6	Nov. 1	Nov. 15
Wild Turkeys (See **counties closed** and those with **restricted season below**)*	1	1	Nov. 1	Nov. 25
Ringneck Pheasants, males only	2	8	Nov. 1	Nov. 25
Rabbits, Cottontail	4	20	Nov. 1	Nov. 25
Squirrels, Gray, Black & Fox (combined kinds)	4	20	Nov. 1	Nov. 25
Squirrels, Red **(closed October only)**	Unlimited		All months except Oct.	
Hares (Snowshoe Rabbits)	2	6	Dec. 25	Jan. 1, 1951
Raccoons, by individual or hunting party*	5	}	Oct. 16	Feb. 1, 1951
Raccoons, by trapping*	..	} 40	Oct. 16	Feb. 1, 1951
Woodchucks (Groundhogs)	5	Unlimited	1950: July 1-Sept. 30 1951: July 2-Sept. 29	
Grackles **(closed October only)**	Unlimited		All months except Oct.	
Bears, over one year old, by individual	1	1	Nov. 13	Nov. 18
Bears, as above, by hunting party of three or more..	2	2	Nov. 13	Nov. 18
Deer, Antlerless (See Note)* by individual	1	1	Nov. 27	Nov. 28
Deer, male with two or more points to one antler (See Note)*, by individual	1	1	Nov. 29	Dec. 9
NO OPEN SEASON—(Hen Pheasants, Cub Bears, Elk and Spike Bucks)				
FURBEARERS				
Skunks	Unlimited		Unprotected Sept. 1, 1950 to Sept. 1, 1951	
Opossums	Unlimited		Unprotected to Sept. 1, 1951	
Minks	Unlimited		Nov. 6	Dec. 16
Otters	Unlimited		Nov. 6	Dec. 16
Beavers (traps only), State-wide*	2	2	Feb. 15, 1951	Mar. 1, 1951
Muskrats	NO OPEN SEASON			

*SPECIAL REGULATIONS

Turkeys, Counties Closed—Adams; Armstrong; that part of Cambria west of Highway Routes 271 and 56; that part of Cumberland south of U. S. Highway Route No. 11 to the west shore of the Susquehanna River; Fayette; that part of Franklin south and east of U. S. Highway Route No. 11; Greene; Mercer; Somerset; Venango; Westmoreland and York have no open season.

Turkeys, Restricted Season—Bradford; Cameron; Carbon; Centre; Clarion; Clearfield; Clinton; Elk; Forest; Jefferson; Lackawanna; Luzerne; Lycoming; McKean; Monroe; Pike; Potter; Sullivan; Susquehanna; Tioga; Union; Warren; Wayne; and Wyoming. **OPEN SEASON**—Nov. 1-12 inclusive; **CLOSED DURING BEAR SEASON**—Nov. 13-18 inclusive; **OPEN SEASON**—Nov. 19-25 inclusive.

Raccoons—Hunting season begins at 7 a. m. on the first day, and ends at Noon on last day (see instructions below concerning trapping). May be hunted day or night, Sundays excepted. The season limit applies to hunting and trapping combined.

Deer—Antlerless Deer may be taken only Nov. 27 and Nov. 28, State-wide, without special permits. Season may be closed in any County under Act 221 of 1949. (Newspapers will announce closed counties, if any.) This year a hunter may kill either one antlerless deer or one legal antlered deer—not both—within the periods prescribed, whether hunting individually or with a camp or hunting party.

Beavers—No trapping at Commission-posted dams. **Nonresidents may not trap beavers. One person may set, tend or operate 10 traps only.** Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or waterline to facilitate identification without disturbing traps. **Pelts must be tagged within 10 days after season,** and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

Trapping—Traps for furbearers and raccoons not to be placed, staked or set before 7 a. m. on the first day of the open seasons. The season on the last date indicated for Trapping closes at 12 o'clock Noon on last day. Traps must be tagged with metal name tags.

Snares—The use of snares is prohibited in all counties except by special permit.

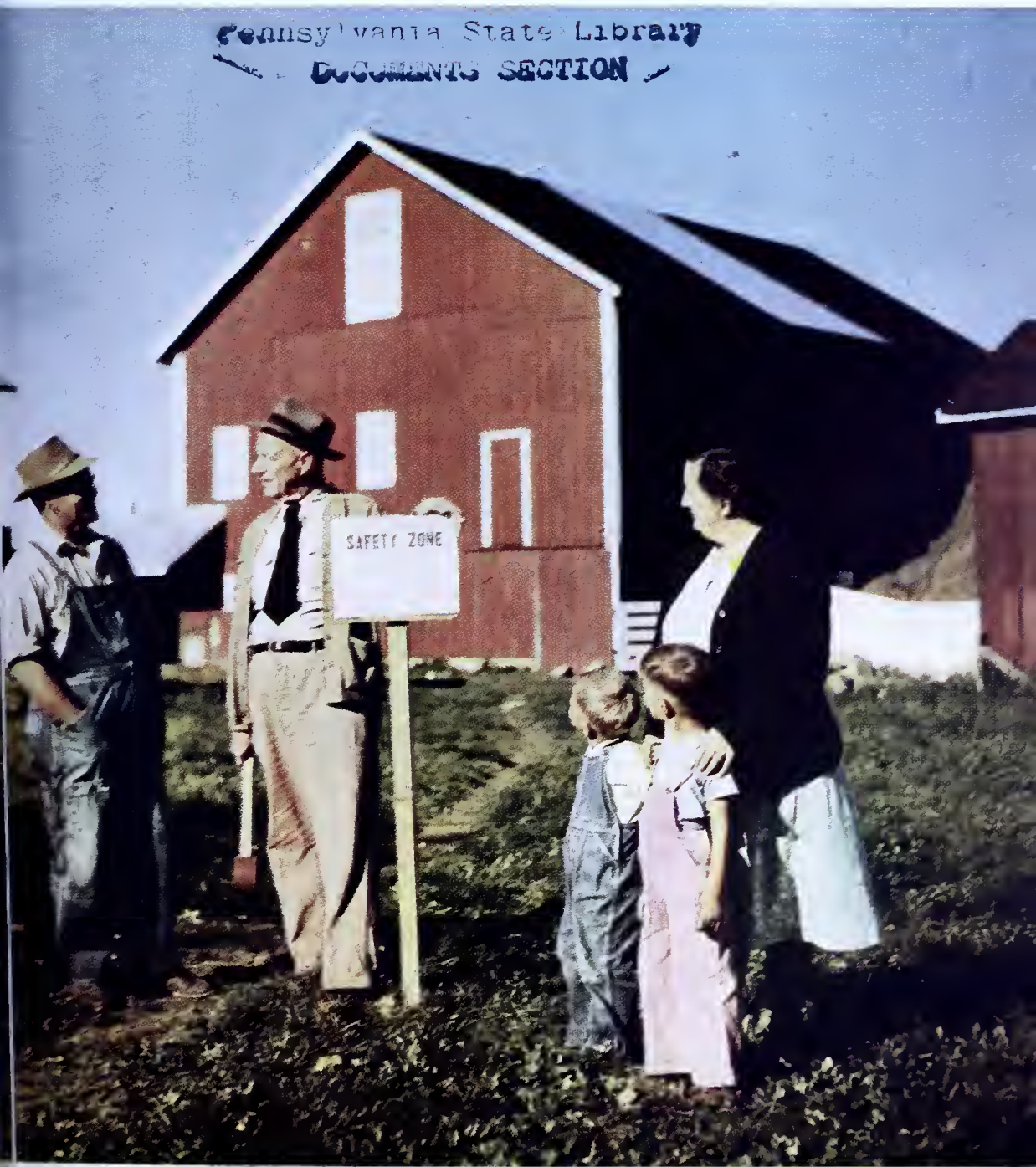
REGULATIONS FOR UPLAND GAME FIXED BY PENNA. GAME COMMISSION AT MEETING JULY 6, 1950.

1950 HUNTING LICENSE IS VALID SEPT. 1, 1950 TO AUG. 31, 1951, BOTH DATES INCLUSIVE.

PENNSYLVANIA

Game News

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THE STORY BEHIND THE COVER

Biggest factor in the posting of many Keystone State farms against public hunting is a lack of respect for the landowner's rights by hunters, most noticeably expressed by their shooting too close to occupied farm buildings.

In an effort to solve this problem the Game Commission uses safety zone signs on all of its Cooperative Farm Game Projects throughout the Commonwealth. These easily read placards inform hunters that it is unlawful at any time for any person, other than the owner or occupant, to discharge any deadly weapon within 150 yards of any occupied building without specific advance permission of the owner or tenant.

Scenes like that shown on this month's cover have been duplicated many times this fall throughout Pennsylvania's bountiful farmland. Here Game Protector Bruce Yeager, Northumberland, has paused at a barnyard in Montour County to show a safety zone sign to Mr. and Mrs. Ralph Enterline and their grandchildren Jimmy, left, and Billy. From the farm buildings surrounding the yard, Game Protector Yeager will pace off 150 yards before erecting this sign and others like it at conspicuous places on the zone boundaries.

Whether or not these signs are erected, however, it is unlawful to shoot or hunt game within 150 yards of any occupied building in Pennsylvania without prior permission. The Safety Zone law applies to all such buildings, no matter where they may be found.

As reminders to all sportsmen and as warnings to the careless or uninformed hunter, thousands of these signs will be seen this month on Farm Game Cooperative projects as an insurance to continued public hunting in Pennsylvania.

RESPECT THE LANDOWNER'S RIGHTS AND SAFETY ZONE SIGNS

PENNSYLVANIA Game News

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JAMES H. DUFF, GOVERNOR

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Good Hunting Today

By Vera Y. Anderson

The eve of the season for hunting arrived
And the men in the house buzzed like bees in the hives.
The boys were just planning a short game of crap,
When Dad called to Mom, "Where's my red hunting cap?
Where's my scarf and my gloves and old leather coat?
A man around here has the chance of a goat
Of finding his duds." For his cap to his sox
Had been carefully placed in an old attic box
By Mom, who so kindly had bundled them all
When hunting season was over, last Fall.

So Mom obligingly goes for the clothes,
While Dad cusses loudly 'bout the cold in his nose.
He calls to his boys—"Lookie here my sons
I hope you're through cleaning and oiling your guns.
If you are, gather 'round, for I want to recall
The hunting accidents in our State last Fall."
With that, he sits down near the bright burning logs,
And draws close the stool for his poor aching "dogs,"
He's so weary and tired—falls asleep in a flash,
And a dream comes asoaring. It's something quite rash.

Instead of reviewing the sound hunting rules
To his boys he declared, "We'll just Be Four Fools,"
"Now Bill, you'll not mind, for I know you like likker.
Bring a bottle along, and we'll do the job quicker.
When we first reach the fields, and have fences to cross,
Give a hearty good cheer and yell, Here we go Boss.
"Don't break your gun," or you'll spoil all my planning.
You'll be climbing the fence, while the fields we'll be scanning.
I can see you now, Bill, sitting on the top rail,
Reaching down for your gun—"Off It Goes"—it won't fail.

You'll be the first—but we'll follow you soon,
For we're all to be killed today before noon.
I know it sounds crazy, after all of the years
I've been teaching you carefulness, kindness and fears
For the lives of other who like to hunt game.
This year we'll skip rules. 'Twill sure bring us fame.
So Jakie and John, you'll go on with the scheme.
"Keep Guns Off Safe"—or you'll spoil poor Bill's dream.
Instead of us hunting safely in line,
I'll wander ahead—that way will be fine.

John, you step on some stones—and with snow on your boot
You will slip—gun goes off—and your Dad you will shoot.
Don't waste your time shedding tears, or in praying,
Or thinking what folks back in town will be saying,
But into the fields further on you will go
Looking for Turkey or maybe a Doe,
And suddenly—there in the brush there will be
A movement of twigs,—and of course you can't see
Just what it is, and not caring the least
If it's man or woman, a child or a beast.

"So just let it have it"—and—"Afterward Look"—
It was Neighbor Brown quenching his thirst at a brook.
"Oh well," you will say, "I am sure a go-getter"—
"Just another dead duck—He should have known better."
With Bill, Dad, and Brown, all out of the way,
You'll yell, "Bring 'em on—it's good hunting today."
There are many more rules you can break before noon,
So keep trudging on—over toward the lagoon."
But by now the conscience of John and his brother, Sent them back to their home to report to their Mother.

Just then, Mom comes down with the clothes and the cap,
And awakens dear Dad from his two-minute nap.
He shakes and he shivvers and jumps from his chair—
Takes Mom in his arms and caresses her hair.
Then turning, and getting a smile from each son,
Thanks God they're still with him to enjoy all the fun.
Oh, yes it's far fetched, but the moral is there
For all who go hunting to "Take Every Care."
Just remember—"Rules Broken Can Only Bring Sorrow"—
So be sure you obey them when hunting tomorrow.

(c) 1950 *By Vera Y. Anderson*



Infants Behind the Gun

By Leo A. Luttringer

I AM convinced that in direct proportion to their numbers we have just as many infants behind guns as we have behind sterring wheels of automobiles. I'm not speaking of infants in terms of age. I'm referring to them in terms of ignorance, carelessness or downright indifference. And it's high time something is done about them or tragedy will follow in their wake, either for themselves or for the innocent victims of their indiscretions. The Game Commission does all it can possibly do to educate the ignorant and penalize the careless or indifferent in the matter of handling firearms properly and of practicing safe hunting techniques. It will continue doing so, but its job will be more far-reaching and effective if the sportsmen help to instruct beginners, and drop from their memberships those who continue to be careless in action and discourteous in demeanor.

Let us analyze the several classifications. Take the ignorant for example. I do not imply that ignorance in this case is dumbness. I mean to imply that the individual has not been properly taught how to use a gun. And if that person is a member of a local sportsman's association, the son of a neighbor who does not hunt, or *anyone who hasn't been taught the know-how,* then it's the club's fault, the fault of the neighbor who is a seasoned gunner, the fault

of anyone who knows the other fellow's shortcomings and who doesn't try to correct them. Some day, some of us are going to be mighty sorry we didn't take time or interest to do just that.

You can believe it or not, but there are a lot of beginners who don't even know how to load a gun properly; and the way some of them carry one after it is loaded makes goose pimples run up and down your spine. I've seen novices pointing firearms everywhere except where they should be pointed, and I've seen them do things in the field that make my heart stick in my throat for hours afterwards. My first such experience left my legs as wobbly as a new born calf's. I was one of a party of five. Three of the others were fairly old timers as far as proper hunting technique was concerned; the fourth was a stranger —a relative of one of my hosts. We decided to tramp out a grass field, and it so happened that the newcomer was end man to my right. I was in the center. We hadn't gone thirty yards when *bingo* out goes a bunny between he and the chap next to him. Both instinctively raised their guns and simultaneously Mr. Rabbit quickly reversed his field and started heading between me and my companion to the left. Immediately the gunner to my right dropped his gun to make an about face so he would be in position to take a shot in the other direction if the opportunity presented itself, *but not so the*

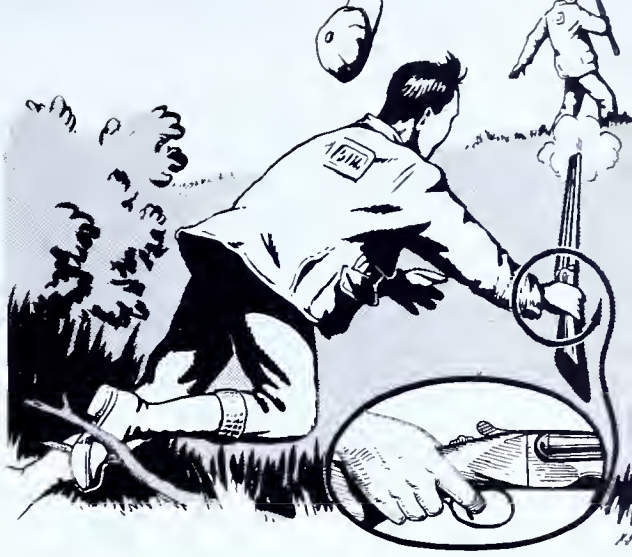
NEVER point the muzzle toward anyone anytime, anywhere.



fellow on the end. He kept his gun on that bobbing creature *every moment* and the rest of us hit the dirt as the creature infiltrated our ranks and went streaking out of range, not a shot being fired. He didn't shoot, I'll say that much for him or someone may not have lived to tell the tale; but the effect was almost the same, and nerves were taut for the rest of the day even though the book of ethics was literally thrown at the offender right then and there, whether he liked it or not. I'll give him his due, however. He was intelligent and he absorbed what he was told, so effectively I believe, that too much concern from then on robbed him of more than one perfectly safe opportunity. But it was better that way—for a beginner. In a little while he'd begin to estimate the situation at a glance and know when to and when not to let fly.

I saw a fellow take a nasty header one day crossing a narrow, shallow creek by trying to step on every dry stone above the water's surface. Trouble was a few of them were round not flat and others were covered with moss and slime. He went over backwards and hit like a ton of bricks, his gun describing an arc and landing on the bank from which he started his fateful journey. He wasn't hurt and next time he'll remember that there are more than one kind of stone. As a hunter he was all right, and the first thing he did when he retrieved his gun was to unload and check it to see if any mud got in the barrel. Mud or snow in a barrel may well spell the end of your hunting days.

The fact that a gun might blow up if fired with an obstruction in the barrel left me highly skeptical until one day I jammed some mud in an old, but good shotgun, anchored it tightly on a post, ran a long heavy



NEVER travel with the finger on the trigger. ALWAYS carry your gun so that you can control the direction of the muzzle, even if you stumble.

cord from the trigger to a safe spot 30 yards away and yanked. Brother, you should have seen that barrel. I sure as heck would not have wanted to be hanging to the butt end of it. The barrel was ripped open and jagged metal strips had flown goodness knows where. Just imagine what may have happened to the hunter.

Yes, we've got to do something about this safe gun handling business and the business of watching one's step in the field. By step I don't necessarily mean looking out for clinging vines and slippery rocks either. If some hunters don't watch their step when it comes to good deportment, if something isn't done about the tough, smart guy who is careless, indifferent and hoggish, who bombasts all day long and mistreats the landowner and his property, we might as well kiss our future hunting a fond farewell.

So get busy and teach the novice and the toughy in the hope that both will become safe gun handlers, careful hunters, and darn good guys to have around. The Game Commission can't do the job alone.

The Painter and The Pioneer

by Archibald Rutledge



PART III

(Continued from the October Issue)

FOR a long while the body of the great black hound swayed against the gleaming sands. Little waves lisped against it. Elfin breakers washed into Bolio's face. He was cold. The consciousness of this discomfort made him at last drag himself a few inches up on the bar. The rain was now ceasing. Head on paws the black hound lay—a long way from home now—almost helpless with a broken leg. But he was alive; and in that particular he had an indubitable, if slight, advantage over his late friend, the puma.

The next morning, while Jefferson Wise was discovering the puma in the backwash pool, nearly two miles farther down the gorge, Bolio was wondering how in the world he would ever get back home. Despite the fever of his broken leg, he slept from utter weariness; and when he awoke the sun was steaming off the hemlocks riming the crests of the gorge. Bolio shivered, blinked sagely, drew himself a little higher on the sand, and then whined pitifully over the pain that was his. His chief danger now would be starving. Already he was very hungry. But Bolio was not without resources. Only a dead dog is.

Slowly the sun climbed; the mists left the mighty gorge clean; dazzling blue sky roofed it. Bolio had shifted his position so that he now faced the river. His wounded leg was a little easier. He knew enough not to move it. A strange sound was now filling the gorge. It sounded like another rain. Millions of drops of water, distilled from the contact of the mist with the trees' foliage, were tumbling like myriads of tiny silver bells. The song of the river was now quieter in its tone—suggestive of a serene joy rather than of robust tumult. But these things interested Bolio little. He was desperately hungry.

Many objects were drifted against the white bar; some of these stranded; others merely touched, and were softly drawn away by the tide. At length came a misshapen, tawny body. Bolio smelt it before he saw it. The puma that Jeff Wise had kicked into the current floated up to where Bolio lay. It stranded. The black hound thrust out his head, seized a fold of the panther's neck-skin, and drew him a little up—high enough to keep him stranded. Bolio's design was clear enough to himself. He felt that this shaggy brute, that had already saved his life once, was destined, by a fortunate chance, to save it again. The dog gave a growl of content and ownership. Then he slept again.

Balmy autumn sunshine filtering into the profound gorge awakened Bolio. He lifted his massive head, gazed thoughtfully at all his surroundings, as if to make sure that he was not being watched, was not being stalked. It is really extraordinary how soon a tame creature amid wild surroundings reacquires all the ancient traits of his savage kindred. A dog—especially an intelligent one—can go wild very quickly, and become as expert a killer as any fox or wolf. When Bolio was satisfied that he was alone, he dragged the body of the puma nearer to him. Then upon the carcass of his enemy he feasted. So complete a triumph was even more than the big hound had expected. As yet he dared not move; but he was now warm, and he had water and food. He felt himself coming back to life.

On that glimmering sand-bar, deep in that gloomy gorge, for more than a week the great hound lay—patient, sagacious, silently biding his time. Kept alive by the stranded body of the puma and by two dead rabbits that somehow the river brought in to him, slowly he recovered his strength.

The fever began to leave his leg. It was very stiff, but it had begun to lose its pain. By day and by night his heart turned toward home; and had he known it, by day and night Jeff Wise's heart turned toward him. Three times that week the mountaineer had been down the gorge searching for Bolio. Once he had been within a quarter of a mile of the silvery sand-bar. He had called. But his voice had been drowned in the steady roaring of the river. It seemed hopeless to Jeff; yet a man who knows a good dog does not give him up until he sees him dead. And as for Bolio—giving up Jeff was the last thing in this world that he was thinking of doing.

Another week passed, and the black hound, savage, lean, bright-eyed, began to limp about the shining sands. He had run out of food. He had to move. But whither should he go, and how?

Sheer rock walls, weirdly hung with hemlock and pine, hemmed him in. Clearly he could not climb them. Bolio dimly remembered the falls, the many rocks, the swift waters. He knew he could not go back the way he had come. He would have to go down; there would be an outlet somewhere, he knew. He could hobble downward in some fashion until the line of beetling cliffs ended. Then he could limp homeward. He knew the direction. It is almost impossible to fool an old dog on the business of direction.

The country into which Bolio now by compulsion ventured had in those days hardly a rival in its utter lone wildness. Here, man had rarely come to stay; only to peer into the beautiful wild gorge, perhaps, to shudder, and to turn away. Glistening sheer rock walls tower above the river at the place where the sand-bar gleams. From the crests of these cliffs the river can hardly be heard, and its white dashings look ghostly in the far bosom of that dim valley. Here and there the channel is choked by stayed heaps of debris, by giant boulders, rolled from the cliffs towering above, by dead hemlocks that, for centuries clinging to the rocky wall, at last had paid their final tribute to life and to time. Over that ancient canyon there broods a sense of the infinite—a thoughtful vast spirit of wonder and of immortality. It has the solemn aspect of eternity.

The hound Bolio was less concerned with the mystery and beauty of the Juniata River than he was with searching among the piles of debris for food to sustain life. As he was a sad cripple, his task was not an easy one; but certain refuse he did discover which allayed his pangs. All the while he kept on slowly and steadily down the gorge—avoiding the water, of the treachery of which he was now well aware—dragging himself wearily over rocks—picking his own trail, since, in that blind and blank wilderness, trails there were none. By night he crawled under a dry trash-heap; and here bedded himself down for all the world like one of his wild ancestors.

For six days Bolio made progress down the river. The weather had been mild and sunny. His foraging had prospered. His strength was fast returning. His broken leg, strangely stiff, was healing fast. Because of his exposure and his hardships his coat had grown rough, but it had a sleek look, like that of a wild thing. From his massive intelligent head looked eyes singularly perceptive, bright, sagacious. Things were going well for him. He had come within two miles of the end of the long gorge. In a few days more he would be out of the chasm—then a bee-line would he make for home.

But the elements ruthlessly dispose of many plans, mortal and canine. One night Bolio went to bed in a trash-heap as usual; in an hour he

was awakened by a patter on the dead leaves and twigs into which he had snuggled. His cold nose sniffed the. air. He smelled rain. With a low growl he slipped out of his lair. Instinct told him that peril was at hand. The voice of the river, responsive to even the slightest rain, seemed already to have deepened. Black night filled the vast river-valley, and down through the night and the valley roared a great autumnal rain.

It is said that a mountaineer, when praying for rain, thus petitioned: "O Lord, don't send no gentle sizzle-sozzle. Send us a gully-washer, O' Lord" Such a rain as now thundered into Juniata River Valley might well have been an authentic answer to such an appeal.

Under the steady thrash of the downpour Bolio whined. Not that he minded the drenching, but rather that he pre-visioned menace. He remembered well that wild night when he had been the plaything of the wild waters; he knew he could not climb the sheer walls. On three legs he stood, his noble head lifted high in the rain.

Philosophers say that a woman's pride is the most sensitive thing in the world; and having no knowledge of philosophy or of woman, I confess that such an opinion, for all I know, may be accurate. But certainly among things most sensitive is a river in the mountains. No moonshiner on its banks loses control of himself half so quickly over a raw pint as does the river, apparently, over a little shower. And a real rain sets it wild.

This was now a real rain that was soaking the gaunt black hound standing beside the trash-heap in the utter maw of the lonely gulch. When a good dog whines as Bolio was doing, he means to say, "My name may soon be Dennis, " or "Wake me when my wings come," or sentiments to some similar effect.

Bolio turned his face southward down the gorge. Painfully he began to pick his way in the savage darkness over the wild debris. He heard, he felt the river rising. In such a country the effect of rain is almost instantaneous. Creeping after Bolio the risen water came—calling—shouting—in bursting tumult clamoring, in prisoned frenzy thundering for release. Soaked, limping, haggard with a nameless dread, yet courageous still, the great hound tried to find a way down through the tumbled rocks, over the waste of a thousand destructions and deaths.



But this gorge of the Juniata belongs to the river. And now the river took its own. Miserably, Bolio, to escape the rising flood, turned to the left and crawled up a slanting rock as high as he could go. To this he clung desperately, while the black roaring gulch filled with the wild thronging voices of the gathered waters. Bolio was assuredly no coward; but his plight made him gulp. He thought of his master. To dogs, men seem supernatural. Jeff, the great hound felt, would have saved him. It is to be doubted if Jeff or any other mortal man could have done aught to lend aid; but Jeff would at least have risked life and limb for Bolio.

Eight miles up the river-valley the mountaineer heard the rain roar sullenly on the roof of his cabin. He thought of the night when his matchless dog had vanished. He thought of the bear season, coming in soon with the middle of October. He felt sick at heart.

There are some wives who, when their husbands go hunting, know instinctively that they must provide, against their nimrods' return, not only consolation, but meat for dinner as well. It was not so with the wife of Jeff Wise. When he went hunting, she began to get ready to take care of the meat. Yet the night before the dawning of that wine-bright October morning, ushering in the bear season, she had misgivings. Jeff's spirits were low. He had managed to trade five racoon hides for a half-grown hound; but the appearance of this creature was not reassuring even to Jeff's wife—much less to him.

"He's jumpy," the mountaineer complained. "He seems to be a cross between a scare and a jump. A real b'ar would plumb spile his scenery."

Nevertheless on the first day of the bear season, and nearly six weeks after the disappearance of Bolio, at dawn Jeff set forth toward the northeast, following the direction of the forge.

Some five miles from the cabin, and just beyond a thicket which swept backward from the dizzy cliffs, Jeff's dog took a bear-trail. It was hot. The young dog yelped eagerly, dashing off under the laurels. Within half a mile the bear came to bay in a shallow cave. When Jeff reached the place, the dog was outside; but from the general dishevelment of his appearance, the mountaineer judged that he had been in. Despite the dog's vociferous ferocity, it was unlikely that he would reenter the cave.

"Bolio would go in on him—God, if I had him!" Jeff muttered, peering into the glimmer of the rocky den.

It was at that moment that the mountaineer suddenly felt a cold nose thrust into his hand. He looked down quickly. Then he went on his knees.

"Durn my Sunday suit!" he sobbed, "it's Bolio."

Gaunt, huge, marked by suffering, but withal glorified by an utter faithfulness that Jeff fully comprehended stood Bolio.

"Damn," muttered the mountaineer, gulping—his arms round Bolio's neck, his face against the hound's massive jowl. The joy of this recovery was almost too much for him.

Jeff was really a man great of heart, I think he wept.

"We'll go in on him, old dog," he said; "we'll go—same like we used to."

And into the cave they went.

At Jeff's cabin that night, a huge male bear was hung on the hemlock in the yard, and on the porch, after all his adventures, utterly contented, lay Bolio.

. . . The End



Your Game Warden Is A Jack of Thirty-one Trades

We get many letters from readers who want to know how they can qualify as game wardens. Now, at last, we can tell them. Quoting Curtis S. Allin (regional supervisor of law enforcement at Boston, Mass., for the U. S. Fish and Wildlife Service) we list all—well, nearly all—the requirements.

Hold on to your hunting caps! A game warden must be:

Biologist—Naturally he's got to know about plants and animals.
Anthropologist—And about men.
Conchologist—And oysters, clams, mussels.
Entomologist—Bugs and insects.
Herpetologist—Snakes, too.
Mammalogist—This covers most of the animals.
Paleontologist—And this takes care of the fossils in the central office.
Ornithologist—He'll have to know about birds.
Ichthyologist—And, of course, fish.
Policeman—He's one of these, too.
Investigator—Lots of this involved.
Attorney—To handle his cases in court.
Sprinter—So he can run down violators.
Mechanic—To keep his car in shape.
Boatman—Plenty of work afloat.
Pilot—For surveys by air.
Radio Operator—And long-distance work.
Orator—He'll have to address many organizations.
School-teacher—Youth groups must be taught conservation.
Doctor—To handle mishaps in the woods.
Engineer—He'll have to offer sound advice on dam and fishpond building.
Farmer—And on crops and cover for wildlife.
Typist—Hundreds of reports to write.
Diplomat—To keep the department—and himself—out of hot water.
Moving-picture machine operator—For visual education.
Forester—He must know timber and forest-fire fighting.
Guide—And find his way to remote districts—and back.
Salesman—He'll have to sell himself and his message.
Furrier—Identify and classify pelts and furs.
Preacher—Deliver sermons on the golden rule.
Accountant—And stretch his pay check to meet the expenses of such a diverse and exacting job.

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Grandpap Told Me

By ROGER M. LATHAM

A guy gets around quite a bit when he works for a Conservation Commission, and in the course of his work he gets to talk to a lot of men—young and old, real woodsmen and raw tenderfeet, city dwellers and mountain folks. You're supposed to be an expert on wildlife and all Nature when you are a Game Commission employee, and everyone who asks you a question expects an immediate and full answer.

For instance, the other day I stopped at a small house back in the hills of south-central Pennsylvania to ask about the bobwhite quail on the farm. A boy of about twelve or thirteen was sitting on the porch and had parts of an old fishing reel scattered all around him. After I had introduced myself and asked him a few questions about the bobwhites, I was about to leave when he suddenly asked: "Say, how's come you put out these here ringnecks that eat every baby rabbit they come across?" I said, "Who told you ringnecks do that?" He answered "Grandpap told me!" I explained how rabbits often nest successfully in the holding fields at the game farms where a thousand or more ringnecks may be crowded into one field, and how, in the better pheasant range of the state, some of the best rabbit hunting can be found where ringnecks are the thickest. "Of course,"

I pointed out, "like chickens, pheasants will probably kill and even eat tiny nestling rabbits if they happen to find a nest where the young are exposed. But certainly, they don't go around hunting rabbit nests like an old crow does in the spring and early summer. Chances are, most of the few baby rabbits which are killed by pheasants would have been taken by something else anyway because of their exposed position."

Whether he had more faith in me or in his Grandpap I never found out because he changed the subject suddenly and popped this at me: "Grandpap says the reason you can't find very many deer horns in the woods is because they eat them as soon as they drop off. Is that so?" I was on the spot because I had to be diplomatic enough not to make Grandpap sound too foolish and yet try to answer the boy's questions truthfully. "I believe your grandfather was thinking about the caribou when he was talking about deer eating their horns. These big deer of Alaska and Canada may eat their antlers but our own whitetails don't. However, porcupines, squirrels, snowshoe rabbits, and mice will eat at them apparently to get some of the minerals they need. Some fellows who go out into the woods a lot during the winter find quite a few, and I know one man who has several bushel baskets full in his garage."

At this point he interrupted and called at the top of his voice: "Hey, Grandpap, the 'Game Commissioner' is here and he says deer don't eat their horns like you said." I gulped a couple of times, as I heard somebody stirring around in the house, and realized that now I was in for it. Grandpap came stomping out muttering "Game Commissioner, eh?" Remembering that some general once said that the best defense is to attack, I walked up to him, held out my hand, and introduced myself before he could say another word. Then while he was still off guard, I said, "I was just going to tell your grandson about the young bucks we had in pens up in Lycoming County. Some of them had as many as eight points the first year they had antlers, and we've found out since that some of our yearling bucks in the wild are ten-pointers." This must have been startling news because I heard him mumble "Well I'll be dad-burned!"

Retaining my tactical advantage, I continued, "Of course that rules out the old belief that a buck started with spikes and then added two points every year until he reached full growth. Actually an old buck, particularly if he isn't too well fed, is likely to have less points than when he was younger. A ten or twelve year old buck may even have spikes. Each year the hunters kill one or two does with antlers, too. Apparently the ovaries of these does have been injured or diseased and no longer function as they should."

The old man shook his head slowly. "It's funny how durn many things we've always thought were so, and then when you come to find out they just ain't."

"That's why the Game Commission maintains a research staff," I explained, "to find out the truth about our game and its management. The Commission can't afford to take a chance on information collected through unscientific observations. In fact, one of the hardest jobs they have is trying to convince hunters that many of the things their fathers and grandfathers believed are not true at all. For instance, many of the people of this state still think every hawk and owl is a bad one and should be killed at every opportunity.

"From our studies we know that some of these hawks and owls are worth their weight in gold to the farmers and sportsmen. One barn owl will probably kill more rats and mice



Hal Harrison Photo.

Barn owls will kill, on the average, over 4,000 rats and mice a year. Identifying field marks are the bird's golden brown and gray back, its long legs, and its lack of any ear-tufts. No other owl has a heart-shaped or monkey face.

around the farm than a dozen cats, and, unlike the cats, it seldom takes a piece of game. Barn owls will kill, on the average, over 4,000 rats and mice a year. You may wonder how the hunter benefits from this. Well, certain mice like the deer mouse may store as much as a peck of seeds in some old stump in the woods. These seeds would have made good grouse, quail, and squirrel food if the mice hadn't stored it away. Think how much food the hundreds of thousands or millions of mice take from our game each year! Our hawks and owls by keeping down these rodents may be doing much more to save game in this way than we ordinarily appreciate."

"Tell me," he said, "how's come an old fox that's feedin' its younguns in the den will go right past the closest flock of chickens and raise Ned with a flock a half mile or a mile away?"

To this question I answered that as far as I knew no one knows exactly why a fox will appear to do that. Some people like to think that a fox is just that smart and that they realize that if they took chickens near the den it would be a dead give-away. By going to a neighboring farm at some distance, it becomes much more difficult for the irate farmer to locate the den and perhaps destroy the pups. Even though the fox is noted for his cunning, it is doubtful whether it is that intelligent. In fact, there are as many cases where they do take the nearest chickens as where they hunt farther afield. There is a good possibility that there may be more human activity around one farm than another, or it may be that the fox had an unpleasant experience or two at a particular farm which he hasn't forgotten. A farmer's dog might have chased the fox away the first time

it tried to steal a chicken, and it figured that there was a good place to stay away from.

I told him about the poultry raiser in Chester County who surrounded his range field with a ring of dog houses with a good big dog tied to each. Even though these dogs were tied only a few yards apart, it was no time until the foxes solved the problem and began to carry off the young chickens in broad daylight. In spite of much fierce barking and lunging against the chains by the dogs, these clever red foxes would enter the field at a point half way between two dogs and nonchalantly go about their filching.

I said "Did you ever see a fox carry a big rooster or a turkey?" He shook his head. "It grabs them by the neck and, with a deft toss of the head, throws the body across it shoulders and trots off with it bouncing on its back. That way a fox can carry a bird which weighs almost as much as it does to the den perhaps a mile away." Again I had the satisfaction of hearing him say, "Well I'll be dadburned."

There was a fairly long pause as Grandpap and the boy seemed to be mulling this information over in their minds. The boy's mouth was wide open and I wondered how long it would be before one of the many flies on the porch flew into it. Finally Grandpap sort of shook himself out of his reverie and said, "A feller over t'other side of the ridge ketched a silver fox in his traps about four, five years ago. Is there many in Pennsylvania "

I told him that there were probably no native silvers in the state and that this one was likely an escape from a fox ranch. Then I explained that silver foxes were nothing more than a color phase or mutation of the red fox, and that two parent red foxes might have a mixed litter of reds and silvers. "But," I explained, "for some reason still unknown, these valuable mutants are born only in the northern part of North America, especially in Canada and Alaska. The same thing is true of our gray squirrel as you know. In the northern part of the state black squirrels are common, but they're scarce as hen's teeth in the southern half. Here again both blacks and grays may appear in the same litter. Along the New Jersey coast black muskrats may outnumber the common brown kind we know here in Pennsylvania, and even in the southeastern part of our state black muskrats are fairly common. And in southeastern Pennsylvania several skunks are taken by the trappers each year which instead of being black and white are lavendar-brown and white. I wish I could explain why this occurs in one region and not in another, but that's just one of a great many things we don't know yet.

"Speaking of squirrels reminds me of the story that has been handed down from generation to generation concerning the tendency for red squirrels to emasculate gray squirrels. Many people claim that they have observed this misdeed on the part of the red squirrel, but apparently they have taken too much for granted. When a red squirrel is chasing a gray along the ground or along a limb, the nearest part of the gray's anatomy, and the most convenient part to grab with its teeth, is the distended scrotum.

In hunting season I've had fellows show me male squirrels which they claimed had been emasculated by red squirrels. But these men did not stop to think that the testes are ordinarily retained inside the abdominal cavity except during the mating season. For that reason most of the males, and especially the younger ones, would appear not to have testes during that time of year. These doubting Thomases should look inside before condemning the red squirrel too hard.

There probably are cases where a badly torn scrotum has become infected and the gray squirrel rendered sterile indirectly. Chances are, though, this doesn't happen too often.

Grandpap was waiting for me to finish this time and immediately asked me if a doe deer could have a fawn when she was a year old. I told him about the work in New York State where they have examined hundreds of does killed during the fall hunting season and others killed by cars. These wildlife men found that, under the best of range conditions where the deer were well fed, about one-third would fawn the first year. These probably represented the older yearlings born during May and early June. Late June and July fawns would be less likely to breed during the first fall.

"Our black bear is the least precocious of all our native game animals," I continued, "for they may not breed until the third year, and then they ordinarily have cubs only every other year. A new-born cub is just about half the size of a newly-arrived porcupine. A 200 or 300 pound bear will have cubs weighing about 8 to 10 ounces each, while a 10 to 20 pound porcupine will give birth to a 16 ounce offspring. Not only that, but bear cubs are born in such a premature state that their eyes don't open for six weeks and it is another month before they can venture outside the den. On the other hand, the porky is born well furred, is able to protect itself with its spines almost immediately, and is ready to eat solid food within a couple of days.

"Perhaps the most interesting animal babies are the opossums. When first born an opossum is smaller than a honey bee and an entire litter of a dozen or more can be held on a common teaspoon. These tiny bits of naked flesh, which are really nothing more than prematurely born embryos, are able to climb hand-over-hand through the mother's fur, locate and enter the marsupial pouch, and attach themselves to the nipples. Each hangs on tightly to its nipple and doesn't let go for several weeks. Later, after they get to be the size of small rats, they may crawl out of the pouch and ride on the mother's back. It's an interesting sight to see an old 'possum with eight or ten babies hanging onto her back and tail waddling down a woods path.

"The opossum is only one of many animals which transports its young. Some bats, for instance, may carry their three or four babies with them when they are hunting for insects on the wing at twilight. The tiny bats cling to their mother's fur with both tooth and claw. The remarkable part of this feat is that the combined weight of the four young may exceed that of the mother, and yet she can carry them and perform her usual intricate maneuvers in catching insects in the air.

"The sea otter is another. These rare and extremely valuable fur animals bear their young at sea in beds of kelp. They transport their offspring by swimming on their backs while clutching the tiny otters to their breasts.

"But the most truly amazing of all parental solicitude is exhibited by the emperor penguins. Since they spend their entire lives on the frozen wastes of the Antarctic where no trace of nest material is available to insulate an egg or offspring from the intense cold, these birds have evolved an unique method for incubating the eggs and brooding the young. Only one egg is laid, and this is held in a pouch-like fold in the skin of the lower abdomen by the feet and rudimentary wings. Thus, all incubation is accomplished standing up! Because an egg would freeze almost in seconds in the 50, 60 or 70° below zero cold, the penguins cannot leave it exposed when hunger drives them to feed.

What does she do? She passes her egg or newly-hatched young to another penguin which mothers it as if it were its own. In fact, both males and females, bachelors and all, help to keep the eggs and tiny penguins warm. So eager are they to assist that they may literally snatch one another's charges, and often eggs are broken or baby penguins injured in fights for possession. This parental instinct is so highly developed that some may be found holding round pieces of ice to their bellies in an effort to hatch them. One thing certain, it would be a wise mother who would know her own son after weeks of this shuffling.

"We have nothing which will compare with the penguin for cold weather mating, but our great horned owl doesn't seem to mind winter weather either. It is usually incubating its eggs in some abandoned crow's nest or old hollow snag as early as February, and the young owls are often in the nest for two or three weeks while snow is still on the ground. No wonder they speak of something as being 'tough as boiled owl,' for they'd have to be tough to sit out in the open during February and March."

I thought perhaps I could get away from Grandpap and the boy at this point and go on about my work, but this time the boy was ready with a question: "I saw a movie once where a deer out West killed a rattlesnake with his hooves. Do our deer kill them like that, too?"

"We did some experimenting on this subject just for our own satisfaction," I told him, "but when we finished we were more confused than ever. People claim that they have found dead rattlesnakes in the woods which were obviously trampled by a deer. Of course, unless they actually saw the performance they couldn't definitely say that the deer killed the snake because it could have been dead from some other cause before the

Porcupines and other small rodents often eat deer antlers in order to get necessary minerals. Deer, themselves, never devour their own antlers.



deer worked it over. Anyway, we put rattlesnakes in the pens with our fawns, young bucks, old does, and even our old bucks which appeared to be afraid of neither man nor beast. A couple of these older bucks were 'bad ones' for they would charge and attempt to kill anyone who entered their pens.

"The result was always the same. The rattlesnake would be placed inside the gate of a pen and would usually lie quietly for a few seconds. The tame and curious deer would approach with no evidence of fear until suddenly they would smell the snake, or it would move and begin to rattle, and immediately the deer would jump into the air as if shot and dash wildly to the farthest corner of the pen. There it would stand, or trot nervously back and forth, all the while acting like it wanted to get all four feet off the ground. This lifting of the feet was accompanied by a squinting of the eyes as if some strong gas or other irritating substance was hurting its eyes. The 'bad' bucks would approach a man standing inside the gate with a rattler on a shovel with hair raised, ears laid back, and antlers lowered in preparation for the final charge, but one whiff of the rattler and all fight was gone. These big 250 pound bucks would 'toe dance' just as well as the smaller, less ferocious deer. So there you have it, do they or don't they?

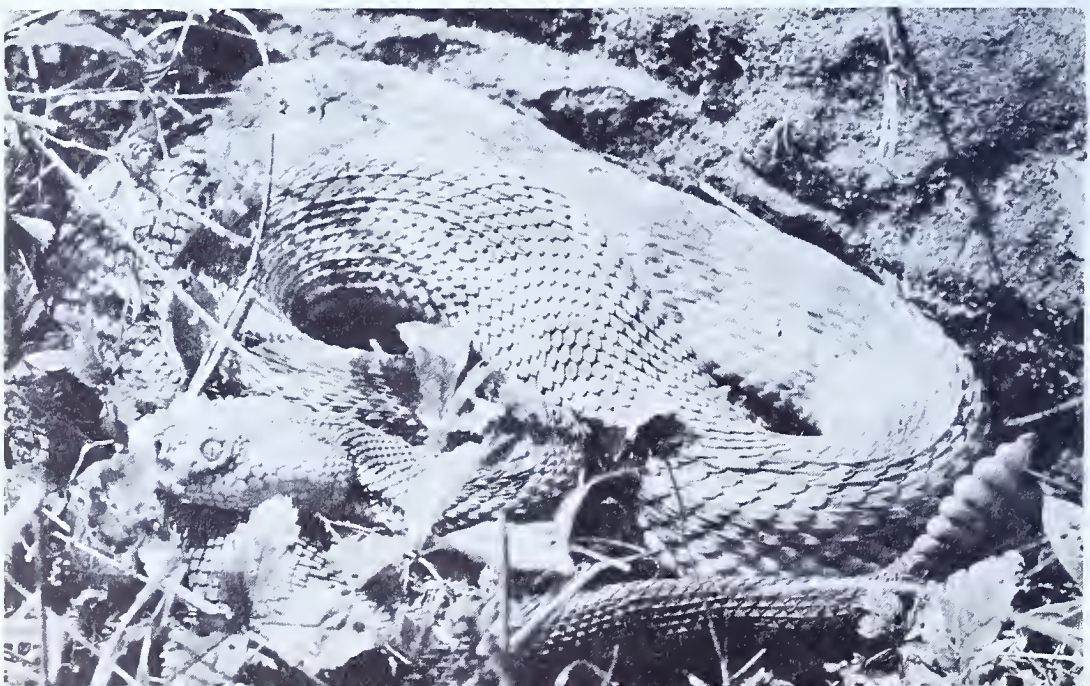
"A lot of people think the age of a rattlesnake can be told by counting its rattles because they believe it adds a rattle each year. Actually, they add two to four a year, and average about three. Ordinarily, every time the skin is shed another rattle is exposed. These snakes are seldom found with more than ten or twelve rattles because the end three or four keep breaking off or wearing off as a result of the intense vibration. So the number of rattles they have means little if you are going to guess their age."

This time I managed to say "so long."

As I walked down the path toward the car, I glanced back toward Grandpap and the boy. Grandpap was looking at his grandson and slowly shaking his head. As I opened the gate I heard him say, "Well I'll be dadburned!"

. . . The End

Rattlesnakes placed in pens with wild deer always caused even the most belligerent bucks to back up.



Outdoor Reveries

By JOHN H. DAY



Melancholy Days

RELAXED before the leaping fire, the outdoorsman takes his ease and lives over the day's stiff trek through the swampy hinterland. Bear sign had been everywhere, but bruin himself had craftily kept to the coverts, refusing to be stampeded into the panicky cross-country flight which leads past waiting riflemen.

Before turning in for the night, the careful hunter checks his gear against the next day's long foray across the timber "slashings." He makes sure that compass and matches are all present and accounted for, and stows a few candy bars into a side pocket just in case. Then he walks outside the cabin for a look at the weather and meets an old friend, the mightiest hunter of them all.

Stalking patiently across the southeastern sky, with hunting club upraised in his right hand, the great Orion has succumbed to the lure of the hunter's moon and will prowl the night watches until mid-April. The ancient star gazers saw the skin of a lion he has killed hanging from his upraised left hand. Pacing along behind are his two hunting dogs, Sirius and Procyon, eternally coursing the heavens for huntsman's trophies beyond the imagination of man.

The outdoorsman renews acquaintanceship with the red star Betelgeuse, pulsating in the right shoulder of the constellation, and with Rigel, marking the left foot, a great star 14,000 times more luminous than our sun. The hunter's head is indicated by a little triangle of stars. It seems incredible, but the full moon will fit into this triangle. In fact an aspirin tablet, held at arm's length, will blot out the moon, which seems so large against its background of pin-point stars.

Aside from the Big Dipper, perhaps no sky-grouping attracts so much attention as the three stars which

make up Orion's belt. The Eskimo hunter watched them sparkle in the frosty Northern midnight and saw in them three steps cut in a snow bank by a doughty traveler. For centuries they have been known as the "three kings" to sky watchers in other lands.

The outdoorsman shines up his glasses and peers at the diamond rosette of the Pleiades, hanging just above Orion. He tries once again but is unable to make out with certainty more than six of the stars in this misty-lighted group. Sharp eyes can probably distinguish seven or eight, arranging them in the form of a tiny dipper, but most persons see only a shimmering haze surrounding the half-dozen brighter stars.

A trout brook chatters happily through its sluiceway just below the cabin. Its music is much subdued from the full-throated roar of the Spring run-off, when the gamey brookies drove like flashing rainbows through the limpid pools. Somewhere out in the darkness a buck deer snorts in proud alarm, and the firelight flickering in the open cabin door provokes a barred owl to hoots of indignation.

Quite at home in that tangled swampland, a crafty old black bear eased himself along through the darkness, fully aware of the wood smoke and the dreaded man smell hanging over the thickets. Daylight would find him in good position to command all approaches to his covert, ready and quite able to match wits with any single hunter. Only a noisy "drive" could shake his cunning judgment and send him crashing wildly through the undergrowth.

Now safe in the cover of the canopy of the night, the big bear rolled along a woods road to his sign tree, which marked the corner post of his woodland domain. Here, not a mile from the outdoorsman who had come out to sample the night, he clawed great disdainful challenging furrows high up on the "visitor's register," announcing to all and sundry that he was still actively in the bear business and quite able to take care of himself.

The hunter sensed that his crafty quarry was out there in the wastelands. That sixth sense which all true woodsmen possess tingled with the knowledge that an exciting day lay just ahead.

The outdoorsman knocked the dottle out of his pipe and squinted up at the heavenly twins in the constellation Gemini. Even as ancient hunters swore by Gemini many hundreds of years ago he promised himself, "By Jiminy! I'll get a crack at that big fellow tomorrow!" and stomped in to his bunk by the hemlock-shaded window.

Since the first pages were written in the Book of Days, men have searched unceasingly for the elixir of youth. Eagerly they have pounced on all sorts of weird nostrums, submitting to patent quackery their hopes and aspirations for a few more years. Ancient alchemists, pondering the immutabilities of life in mystic alcoves, tried in vain to read the riddle of eternity.

The countryman, just in from a brisk stroll through the November thickets, long ago worked out his own prescription. Mix a hobby, preferably of the outdoors variety, with plenty of sky-air; shake well and take at least once a week; oftener if indicated. Positive results are guaranteed.

There are so many exciting everyday adventures in the open that the outdoorsman can't find the time to worry about such silly things as taut nerves and pressure jobs and gastric ulcers. Much more important are the rare flowers or new birds seen during the afternoon. Completely relaxed, he comes nosing into the kitchen to see what's for dinner and how soon.

Occasionally the devout country-

man succumbs to the Sunday morning luxury of turning a deaf ear to the alarm clock. This puts him on his feet too late to make it to church. Disturbed by an uneasy conscience he gazes out the window to find that another November has suddenly arrived and that Sunday morning sermons on a wide variety of pertinent texts are being preached in the tangled valley behind the house.

The way to this outdoor cathedral leads across the back fence and through the tall jungle of dead weed stalks on the flat by the creek. On a high point of land at the streamside a colony of sycamores has flournished with the passing years until now they stand about in massive splendor, like so many sturdy pillars in this woodland church.

The countryman fights his way through grasping burdock and a host of the tiny pitchforks of the "Spanish needle." Finally he clears the last obstruction and moves into the peaceful nave of the streamside cathedral. He selects a great bole slanting up at just the right angle and leans back to hear once again the immutable witness of the outdoors.

A tiny breath of a breeze stirs the treetops and as the countryman looks up, the great sycamore leaves break free and start floating quietly down, one by one, to join the warm mulch tucked like a blanket about the "feet" of the huge trunks. Unperturbed by world-shaking events which keep mankind in constant tensed disquiet, the great trees went serenely about the Master's business, preaching the countryman a sermon far more eloquent than could be heard from any pulpit.

November days are truly melancholy, the "saddest of the year" to most of the busy little fellows of the wild bee tribes. Drones and workers still around now buzz off to bee heaven. The heavy queens chosen to carry on the race seek out protected nooks beneath stumps and rocks and immediately go into a dormant sleep. The hardy Mourning Cloak butterflies crawl into bark crevices, to awaken during the January thaw and dance above the melting snow.

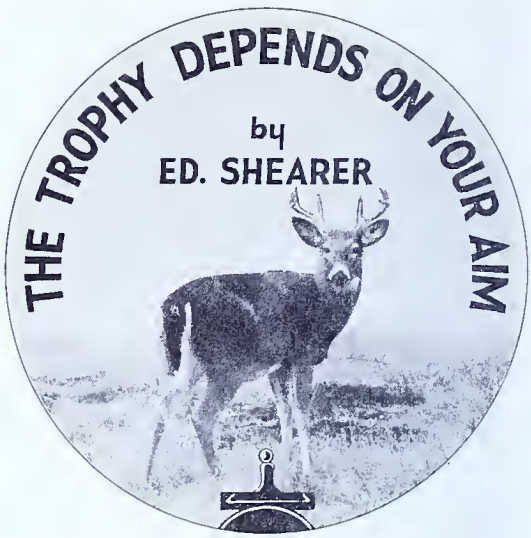
This November will also be the twilight hour, in good earnest, for many hundreds of acres of beautiful countryside which are destined to fall prey to the glutted drag line monsters of the strip mine operations. The once lovely valley just beyond our lawns, now a desolate wasteland, is but typical of similar scenes across the land, wherever a trace of the "black gold" has found its price.

. . . The End



THE TROPHY DEPENDS ON YOUR AIM

by ED. SHEARER



A CENTURY has fashioned great changes in our forests, their inhabitants and the hunters who follow their trails. The biggest change that has taken place is not so much in the animals of the forest as in the men who hunt them.

The buckskin-clad follower of the dim trails set a standard for all around marksmanship that was unheard of before his time and has probably never been equaled since. He was the first hunter-rifleman. By nature and necessity he was an economist. Surrounded by wild beasts and still wilder men, he survived because of his knowledge of them and his ability to use that knowledge. There was no recourse to a corner store. The forest yielded his shelter, the skins of his quarry his clothes and their flesh his food. Whether he ate or not frequently depended on his skill with the rifle.

His rifle was of limited range and relatively low power. It was very accurate, however. Powder and lead were scarce items in those days, so scarce that he developed into a stalker who was almost as cunning as the game he pursued. The low power of his rifle made vital shots necessary. Still another factor which made the frontier hunter so deadly was the time that necessarily elapsed between his first shot and his second. Usually, one shot determined the outcome entirely.

His stalking skill was not squandered by a hurried or ill-timed shot. His knowledge of vital spots on game was not wasted by haphazard shooting. He was cool, sure, fast with the speed of long practice, not of jumpy nerves. And above all, a familiarity and feel of his rifle which came from constant handling under all conditions were his.

Today the picture is radically changed. The modern day hunter possesses little of the skill which made his forefathers famous. A lack of time and opportunity to be outdoors is in large part responsible. Today's hunter must acquire a large portion of his woodcraft from books and magazines devoted to the subject. Yet, to annex a trophy in the face of present great odds, he really needs a good part of the skill possessed by those whose moccasined feet trod the same paths 150 years ago.

Now that I'm looking back myself over some 45 years of deer hunting and over the experiences of being around at the demise of some 400 whitetails, it's inevitable that I have some definite ideas on killing them and the ability of our modern hunter to accomplish it in an efficient and humane manner.

In spite of all the progress made in the science of ballistics, the outstanding feature of the buckskin era is just as necessary today as it was then. The knowledge of where to aim for a vital spot and the ability to hit it cannot be replaced by high velocity, improved sights, more power, and other extravagant claims to the contrary.

Looking at the factors that cause lost trophies and cripples today, we find that ignorance of the physiological locations and functions of vital organs of game stands close to the top. The average hunter possesses a

very hazy idea of these organs and is further confused by misleading axioms handed down from old timers such as the "Butt o' the lights," behind the shoulder, etc. Add to these such terms as nerve shock, explosive effect, paralysis and a host of others and it's small wonder that the hunter of 1950 gets hopelessly confused.

On top of all this, he shoots a deer which runs a quarter mile. On dressing it he finds a part of the heart shot away and he then and there is convinced "the hull kit and caboodle of them don't know what they're talking about." This I know from personal experience. One shot kills became a fetish with me. Service as a medic on the front in the first World War gave me some knowledge of wounds. Study of wounds on game with frequent checks by doctors who were big game hunters convinced me that there were sound, explainable reasons for the variations in behavior and tenacity of life of all living things.

So, in trying to give a clear picture of vital points of aim, it is essential to analyze anatomical, physiological and ballistic factors that cause tissue damage, bone destruction and death. In order to proceed in an orderly manner we will designate these factors, each of which can alter the effect of a given wound. Since anatomical and physiological factors are interdependent, we will consider them both as one. Ballistic factors consist of caliber, weight and sectional density of the bullet, velocity and bullet construction and shape.

Obviously the extent of any injury depends on the location of the wound. Thus, with constant ballistic factors, the killing power of a wound of a given size is related only to the anatomical structure damaged. For example, a bullet wound of the heart is rapidly fatal while a wound of equal extent affecting only fat, muscle or bone would not be fatal in itself. If the wound is in the abdominal cavity, fatal results depend on the extent of tissue damage or loss of blood. The killing effects of such a wound are increased by such factors as the disintegration of the bullet or a larger size bullet.

Thus we find two factors determine the killing qualities of a wound: (1) Its location, and (2) its extent. Of the two, it is readily apparent that location is vastly more important since a small wound in a vital area will cause death while a large wound in a relatively non-vital area may allow the game to escape.

Now, in dropping an animal in his tracks, there are two or possibly three shots which can be depended upon. The brain shot is undoubtedly the one shot that can be relied on for an instant kill. It has long been a favorite of noted hunters of dangerous game, stalked at close range. There are, however, a lot of drawbacks to the brain shot which will be discussed later.

Probably the most practical as well as the most effective shot for dropping an animal in his tracks is the spine shot. This is because of its extent and the fact that it can be made from a great number of shooting angles. It is not necessarily guaranteed to give an instant kill but the functions of the spinal cord—the conduction of the nerve impulses controlling voluntary motion—are vital. Therefore, any injury to the spinal cord results in loss of voluntary motion or paralysis of all parts controlled by the nerves below the damaged portion of the spine. If the shot strikes to the rear of the shoulders, for example, the body and hind quarters suffer loss of voluntary motion. A large buck, which I boldly approached when thus struck, pulled himself towards me with his front legs. The hair on his neck stood out in a ruff and his eyes spat green fire. I put on the brakes in a hurry.

If the shot lands in front of the shoulders, all four quarters are af-



The knowledge of where to aim for a vital spot and the ability to hit it cannot be replaced by the science of ballistics.

fected and the animal is able to move only the neck and head. Shots in the upper neck region are rapidly fatal due to the fact that respiration is paralyzed. The chief advantage of the spine shot lies in the fact that they hold the animal so that a second and more deliberate shot may be taken. This is greatly to be desired on some occasions in these days of mass hunting when a deer that runs even a hundred yards may wind up with someone else's tag on it.

The next important target area is the chest cavity. Here the heart is of prime importance. Injury to this vital organ or to the large blood vessels entering or leaving it usually is accompanied by such severe hemorrhage that death follows rapidly from circulatory failure. Often a heart shot will drop an animal in its tracks but by no means will it invariably cause this effect. Too many men have been killed or injured at close quarters by dangerous game after making this shot to pin complete faith on it as a stopper. If an animal is standing and is not excited, it is liable to drop in its tracks. But if an animal is frightened or angered, several seconds may elapse before the loss of effective circulation to the brain results in loss of consciousness. Tests on condemned men have shown this time lapse in humans to be approximately 15 seconds. Thus it can be seen that an animal fast on its feet and in favorable terrain could travel quite some distance.

Another great factor in chest wounds is the extent and location of damage to the lungs. Chest wounds may produce rapid death by loss of blood, interference with respiration or a combination of the two. If the damage is near the central part of the lung, death from hemhorrage is usually rapid because of damage to the large blood vessels connecting the heart and lungs. Wounds on the outer portions of the lungs may or may not be fatal. In any event they allow the animal to escape and in many cases probably cause slow death from gradual and prolonged loss of blood.

Wounds of other parts of the body are not fatal in many instances. When they do produce death, it is due to hemorrhage which is not rapid enough to prevent the escape of the animal. In either case an animal is subjected to painful suffering and is wasted as a trophy or meat. From a practical standpoint, the bullet should be delivered to an anatomical point where death will follow as rapidly as possible for both humane reasons as well as preventing loss of an animal.

Now we come to the question of "why does one animal drop to a shot (a heart shot for instance) and another run some distance?" There are two reasons. A great many hunters have only a hazy idea of the location of the heart. They are apt to call

any shot in the shoulder area a heart shot. Secondly, there are some set physiological conditions which effect the reaction of an animal to a wound. These reactions will vary in the individual animal and will vary in degree among different species.

Fear or anger cause certain physiologic changes by means of nerve reflexes and release of adrenelin into the blood stream. The heart rate, blood pressure and respiratory rate are increased. The blood circulation is partly transferred from the less important organs to the brain and muscles. These changes are the same whether they are induced by fear or anger and explain why some animals will go down to the shot while others will fight or flee from an identical wound.

Before turning to ballistic factors that have a large bearing on the damage inflicted, it would be well to clarify some terms which might confuse the average hunter. Paralysis, medically speaking, is loss of voluntary action. It does not kill in itself unless it paralyzes the muscles of respiration.

Shock is another term that is used to denote hitting power. This shock has no basis of fact, medically speaking. Shock is a state of low blood pressure, rapid pulse and respiration and eventual loss of consciousness. As far as a wound is concerned, shock could only occur from severe blood loss. From a ballistics standpoint one of the old, big-bore "coal burners" would be likely to produce shock far more quickly than the modern day "super-duper."

In discussing ballistic factors, we won't go into the matter of cartridges and rifles, but, rather, will stick to those factors that are directly related to the damage created by the wound itself. Since it is the bullet that inflicts the actual damage, let's consider the factors that control the extent of it.

The caliber or diameter is the natural starting point. A bullet fired at low velocity would produce a wound "channel" from the point of entry to the point of exit of approximately the same diameter as the bullet that caused it. This is the reason that large caliber revolvers are preferred by experienced men.

Next comes the bullet weight because of its bearing in respect to penetration. The amount of penetration is determined by the momentum of the projectile. The momentum is the product of weight times velocity. Thus, with two bullets moving at equal speed, the heavier one would possess the greatest penetration, providing the shape and resistance factors were identical. This is generally referred to as the sectional density. That is, the ratio of the bullet weight or length to the diameter. So, of two bullets of the same weight but different calibers, the smaller caliber

Aim for the center of the chest if it is facing you, the point of the shoulder if it is front quartering.



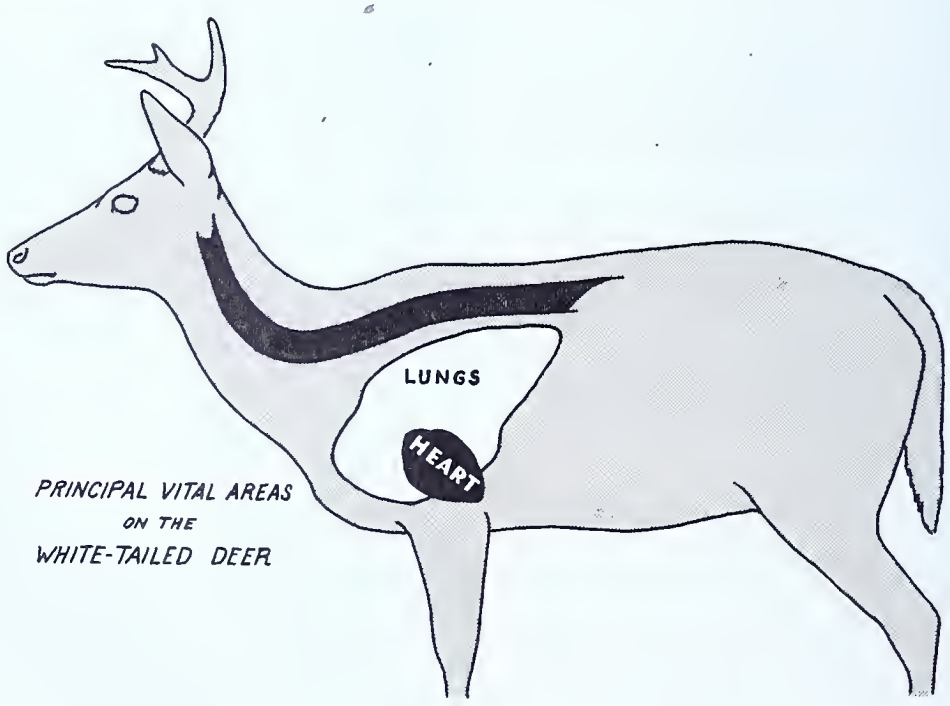
would have the greatest sectional density and the greatest penetration, other factors being equal.

Velocity is a major factor in wound area and severity. A look at a flash photo of a bullet in flight shows air or sound waves caused by displacement. Upon impact, similar waves are set up, but with this difference. Air waves are compressible while tissue, being more or less fluid, is not. The greater the velocity, the larger the waves that are finally dissipated at the body surface. This accounts for the exit of a wound being larger than the point of entrance. As the velocity is increased, the distribution of the wave force is more widespread and the more difficult their release at the body surface becomes. The waves move through the tissues at impact velocity while the velocity of the bullet itself is being slowed down by tissue resistance. Consequently, the wave force may be widely distributed immediately on the initial penetration of the bullet. Such is the effect of ultra-high velocity rifles of the 220 Swift class on small animals when the waves are released from their entire body fluid simultaneously.

There is an additional form of velocity that has an unpredictable influence on the damage inflicted on tissue. This is spin, or rotational velocity. Spin has a gyroscopic effect that keeps the bullet stable in flight. The lineal velocity is greatly effected by air resistance; the rotational velocity is only slightly so. When this gyroscopic stability is effected by bone, heavy muscle, or tissue, it behaves in a manner similar to that of a spinning top. It may dive or strike off its course at an angle, greatly enlarging the extent of the wound. The higher the velocity, the more damage it inflicts to tissue. However, such erratic behavior cannot be depended upon.

Now that we have a working knowledge of wounds and their effect on

The heart, contrary to popular belief, does not lie behind the shoulder. It is located almost directly under it at a point corresponding to the elbow.



various organs, let's pass on to the best points of aim. The important point here is to pick a caliber that has adequate penetration and a correct bullet type that will hold together long enough to achieve penetration on the size animal we propose to shoot.

On light bodied animals, such as deer, any of our commonly accepted rifles will do the trick on side or quartering shots. On raking shots from the rear, I have had failures from several high velocity rifles. One I recall was the 150 grain at 300 feet per second in the 30-06. The bullet went squarely between the hams, then went to pieces in the abdominal cavity. The buck had to be trailed a considerable distance. This bullet, however, was a killer on side or quartering shots. I changed to a western round nose at 2600 feet and had no trouble from any angle. As 95 percent of our eastern hunters will do their shooting at deer, we will consider matters from that angle. What is true on deer is true on any herbivorous animal and largely true on bear.

The brain shot, while deadly when made, is probably the least desirable under most circumstances. The brain is a small mark occupying only from 5 to 10 percent of the head area. A miss all too often condemns an animal to a slow death from starvation with broken jaws. This point of aim is also mounted on a highly mobile target that may turn unexpectedly causing a complete miss. Add the chance of ruining a good trophy head and it becomes a last resort shot.

The neck is another deadly point of aim. There the spine must be struck or a cripple results. As the spine fills only about 10 percent of the neck area, it is little better than the brain shot. The spine itself presents a very small mark from most angles but there is one time when it is the best. That is, when you are standing to the rear and a little above an animal. Then it presents a long target in which elevation can be disregarded. If aim is taken well forward, a close miss can result in a fatal shot. It is desirable under favorable conditions when an animal must be stopped in its tracks.

The heart is next in importance although for the reasons already stated, the animal may or may not travel some distance. The lungs are a much better point of aim. While hits on the outer lobes do little immediate damage, a hit in the base is liable to strike the heart as well. Then the chance of damage to the large blood vessels such as the aorta, cardiac arteries and jugular vein are good, causing death in a matter of seconds. It also gives considerable leeway in placing your bullet. A miss a little in front will break one or both shoulders. You must break both shoulders to stop an animal but sometimes one will slow him down for a second shot.

The abdominal cavity has little merit as an aiming point. While sometimes an ultra-high velocity rifle will give a quick kill if shot at close range, a lower velocity means a long chase. There is no certainty in this shot and it should be avoided at all times.

There is one shot that is probably the best of all when made from the side or sharp quartering position. That is a fairly high shoulder shot. Until recently I never had heard of any authoritative explanation as to why this is so. But Dr. George Crile, a world famed surgeon and big game hunter from Cleveland, Ohio, impressed by the number of "accidents" among lion hunters who had inflicted mortal wounds on the king of beasts, set out to find a sure stopping shot. He experimented on antelope and lions through dissection. He found the high shoulder shot is a nerve shot with large blood vessels in close proximity. Properly made it results in

paralysis and hemorrhage. The point of aim should lie between the spine and shoulder. The fact that vital areas surround this point makes it the best when the shooting angle is right.

To sum up this "one shot, one kill" business, there are a few rules that have stood the test of time. Some 35 years ago, Colonel John Caswell, a distinguished rifleman who had killed a great number of African, Indian, and American game animals, laid down what I have found to be the best rules under all conditions for killing big game.

Aim for the opposite shoulder if the animal is broadside or quartering. Aim for the center of the chest if it is facing you, the point of the shoulder if it is front quartering. If a rear shot is taken at a running deer, hold way low on that white spot. Remember the tail is the largest part of the white spot.

Of course, the one hitch to all the foregoing is that these ideal points of aim may be obscured by brush, trees, or boulders or it may be moving rapidly over the adjacent landscape. No one can help you here. It's strictly a matter for your own judgment. But, above all, make sure of your target before you shoot. Better to wait and have the animal mysteriously disappear before a clear shot presents itself than to shoot at some indistinct target which might turn out to be a fellow hunter. Use these aiming points if you can clearly see them—wait for another opportunity if you can't.

. . . The End

This is a MAN—not a DEER! Make sure of your target before you shoot.





Sportsmen's Food Plot Project

According to Game Protector Claude Kelsey, Troutville, the Troutville Conservation Club, Helvetia Sportsmen's Club and Stump Creek Rod and Gun Club recently joined together and combined their resources in a common effort to aid and assist wildlife. The results were four separate plots of buckwheat planted in a section of Clearfield County known as the "wilderness area." The seeds for these plots were donated by cooperative farmers. The plowing and preparation of the ground was also done by farmers and paid for by the sportsmen out of their club funds. The plots are geographically located so as to give maximum benefit to wildlife, especially deer and wild turkeys.

Slickville Sportsmen's Club

On Sunday, September 10th, a committee of the Slickville Sportsmen's Club composed of President W. Burlock, Secretary R. V. Gabriel, F. Tom, W. Lobadinsky, L. R. Gabriel, A. Kapusta and E. Simon released 195 twelve-week old pheasants under the supervision of Game Protector L. L. Logan and Deputy William Balest. The birds included 100 banded cocks and 95 hens were released on nearby farms while 5 cock birds and 30 hens were held for post-season release. Club member Andrew Kapusta and his wife, Eleanor, did a remarkable job in raising the birds from day-old chicks supplied by the Game Commission, losing less than 8 percent of the 250 birds received.

Georgetown Conservation Club

The Georgetown Conservation Club recently held its annual three-day outing at the Georgetown Settlement Camp at Mountain Lake. Highlighting the affair were competitive outdoor sports events. Trophies illustrating appropriate outdoor figures were awarded winner. This club has been actively engaged in forest and wildlife conservation for the past few years. Last spring club members planted 6,000 game food and cover trees in the Wilkes-Barre Mountain Area in an effort to improve game habitat. An expansion of the reforestation program is planned for next spring. Forest fire prevention and control is another of their major conservation activities. Hundreds of fire prevention posters have been placed in surrounding woodlands and local school children have been provided with literature on the subject. Two fully equipped and well trained forest fire crews have been organized within the club under Forest Wardens Walter Dorzinski and Peter J. Papsun. Other phases of the club's conservation work include restocking, predator control, shelter building and winter feeding. Members in charge of the conservation program are Charles Yankoski, Gilbert Reilly, Daniel Arch, Andrew Gutkoski, and Donald Pickett. The Georgetown Conservation Club is affiliated with the Pennsylvania Federation of Sportsmen's Club and has a clubroom at the Georgetown Settlement, a community recreation center sponsored by the Community Chest.



Hal Harrison Photo.

A monument to a sportsman who was killed by a careless hunter has been erected near the scene of the tragedy by the Elk County Sportsmen's Association. The memorial is for Harold F. Martin, 28, who lived at 326 Cedarhurst Street, Pittsburgh, and who was shot and killed by an unknown hunter in the Laurel Run section of Elk County on November 30, 1948.

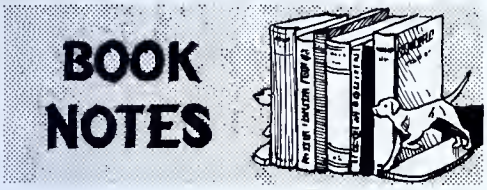
An old CCC camp near Portland Mills was chosen as the site for the memorial stone. The camp, near the spot where the tragedy occurred, is a gateway to Elk County big game country, and a place where many hunters will pass it enroute to the woods. Game Protector Ed Richards, Portland Mills, first suggested the memorial. Elk County sportsmen immediately established a fund from contributions made by member clubs and L. C. Straessley, of Johnsonburg, donated the stone.

York IWLA

The York Chapter, Izaak Walton League of America, sponsored something new and different early in September when they held a York County sporting dog auction. The event enabled dog enthusiasts to try and buy or sell rabbit or bird dogs. The Chapter auctioned dogs for those who had them to sell, keeping a percentage of the selling price. Owners were allowed to set the lowest price they would accept for their dogs and the chapter made every effort to honestly guarantee each dog as presented. Headed by member Ralph Rineholt, the "Ikes" handled some fine dogs from York, Lancaster, Adams and Dauphin Counties.

Hellertown Sportsmen's Association

Highlight of the regular September meeting of the Hellertown Sportsmen's Association was a demonstration of the Identacode System for permanently marking dogs by tatooing, given by a local dog breeder. Club Secretary K. H. Nauman reports that 107 twelve week old pheasants have been liberated in open territory and that the club plans to purchase ten dozen Missouri rabbits this season for restocking. A series of shoots was held every other Sunday prior to the hunting season opening dates to give club members and friends an opportunity to sharpen up their shooting eyes.



TREES OF PENNSYLVANIA—William C. Grimm. Stackpole & Heck, Inc., The Telegraph Press Building, Harrisburg, Pa. Price $5.00.

"What kind of tree is that?" William C. Grimm, who spent 20 years roaming his native Pennsylvania woodlands, sketch-pad in hand, has at last achieved a truly satisfactory answer. His "Trees of Pennsylvania" published this fall by Stackpole and Heck, Inc., presents the distinguishing characteristics of the state's native and more common imported trees with such simple clarity that identification, regardless of the season, becomes as simple as A-B-C. Grimm's painstakingly detailed sketches emphasize those characteristics which have proved most practical for field study—the mature leaves, the twigs, buds and bark.

Grimm was born in the South Hills section of Pittsburgh and quickly developed a love for the out-of-doors. For a number of years he was actively engaged in Boy Scout work in Allegheny County and served as Scoutmaster and as nature counsellor in Scout Camps. He majored in botany at the University of Pittsburgh, graduating with a B.S. degree in 1935. From 1937 to 1939 he was engaged in nature education work with the Pittsburgh Bureau of Parks and since 1939 has been affiliated with the Pennsylvania Game Commission, principally in wildlife research.

Although the book is scientifically accurate in every detail, most of the scientific terminology associated with tree study has been eliminated. The original sketches, and the descriptive text accompanying them, cover 137 different kinds of trees in 29 different families. The extent to which individual trees are utilized by wildlife has been discussed to a much greater extent than in most previous tree manuals. The opening chapters on how trees grow and how trees are distributed read almost as fascinatingly as fiction.

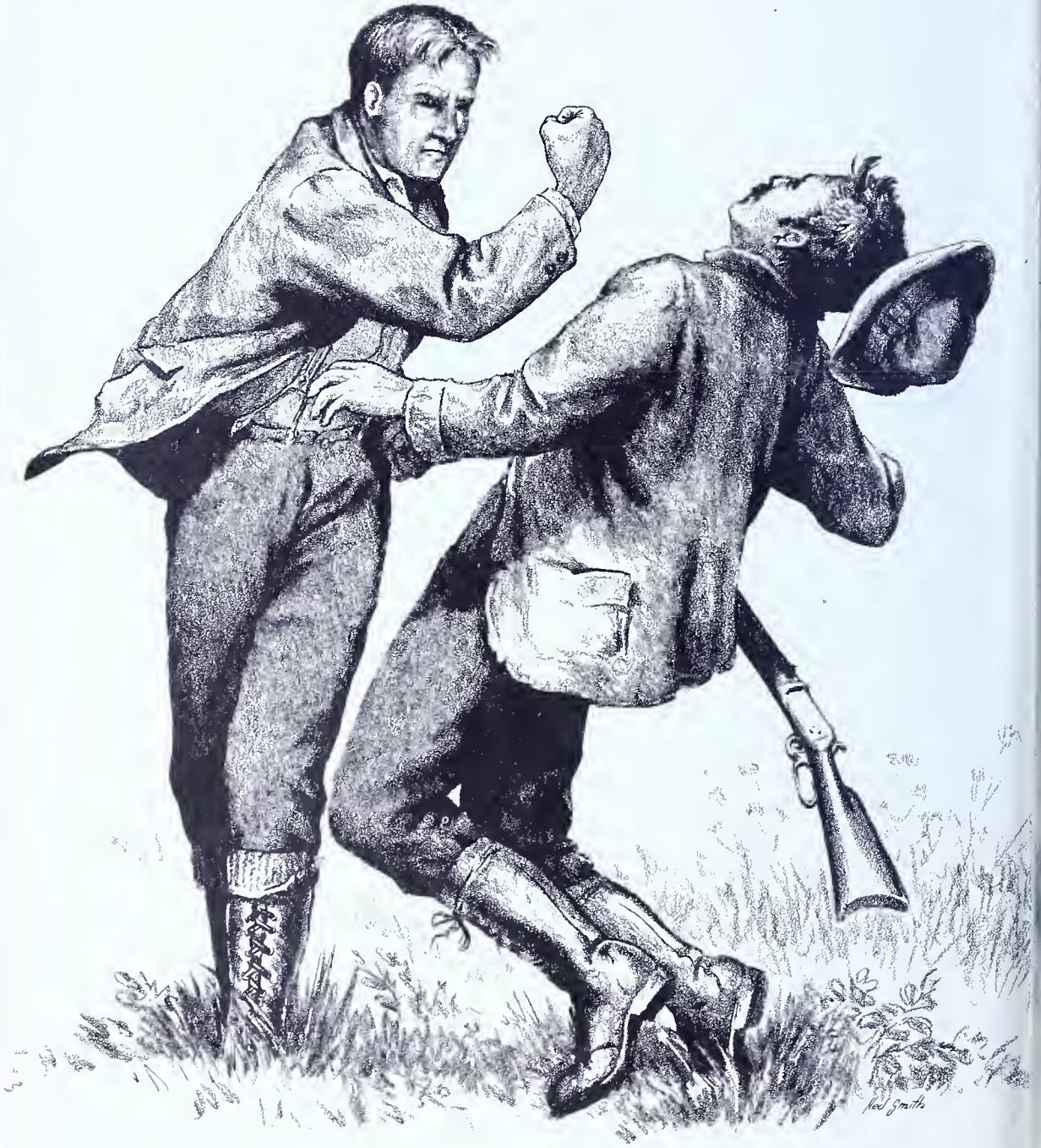
For nearly a quarter-century, since Dr. Joseph S. Illick's "Pennsylvania Trees" went out of print there has been no illustrated manual pertaining to the trees of the state. "Trees of Pennsylvania" meets a growing need for a popular manual on trees for schools, garden clubs, youth organizations, sportsmen, and a host of individuals who are interested in trees and desire to get better acquainted with them.

NUMBER OF FOREST FIRES WENT UP LAST YEAR

There were 11 per cent more forest fires during the past year than in the preceding 12 months, the Wildlife Management Institute reports. In spite of this increase, however, the total acreage burned was substantially less, according to Lyle F. Watts, chief of the U. S. Forest Service.

In 1949, forest fires swept 15,397,419 acres; in the preceding year 16,556,780 acres were burned. The number of fires in 1949 was 193-774; in 1948 there were 174,189. Although there was an increase in the number of fires, the total still remained below the all-time average of 210,000 a year. The Forest Service states that dry spells in many parts of the country and severe lightning storms in the West contributed to the increase in the number of fires last year, but by far the most important cause of fire is human carelessness. It is the responsibility of everyone who goes into the woods to be careful with campfires and discarded smoking materials. The number of forest fires probably could be cut in half if every motorist would use the ashtrays which are standard equipment in all modern automobiles.

PENNSYLVANIA'S WILDLIFE



One of Pennsylvania's early-day Game Protectors met with armed resistance in four out of five attempts to make arrests and solved the difficult situations in his own inimitable fashion.

CONSERVATION HISTORY

(Continued from October Issue)

CHAPTER IV

A Commission Is Born

SUCCESS finally crowned their efforts and in 1895 these sportsmen succeeded in having a law passed by the Legislature authorizing the Governor to appoint a Game Commission of six men. No appropriations were made for the operating expense of this Commission. The Commissioners were to serve without salary and pay their own expenses.

It was apparently a deliberate intent on the part of the politicians to hamper them as much as possible. Looking back now, the attitude seemed to have been—"Oh, let the hunters have their Commission and shut them up. If we don't let them have any money to operate they can't do much damage and if by any chance they should happen to succeed, we will get the credit."

On November 17, 1896, the Honorable William A. Stone, then Governor of Pennsylvania appointed William M. Kennedy, Charles B. Penrose, James H. Warden, W. Hayward Myers, Coleman K. Sober and J. O'H. Denny, all sportsmen, four of whom were members of the Pennsylvania State Sportsmen's Association.

These men chose as their President, William M. Kennedy, an enthusiastic sportsman, banker and former Mayor of the City of Allegheny. They secured the services of Dr. B. H. Warren, State Ornithologist as Secretary, who served until 1898, when Dr. Joseph Kalbfus became Secretary. The Doctor was a dentist by profession and had also studied law. Since there was no salary connected with the job, he worked at his profession during the day and carried on the business of the Commission by night.

Without funds or power the young Commission was rather a puny organization, weak in everything except the strength of character of the men who formed it and those men so solidly behind it.

At any rate, the Pennsylvania Sportsmen had their Commission. Less intrepid men would have been frightened by what confronted these first Commissioners. They were pledged to enforce the game laws that existed then, without a penny for operating expenses, in a State that sprawled over 45,126 square miles. They were supposed to secure new and generally beneficial legislation from an entirely hostile group of politicians. There was opposition at every turn, even by the very hunters they were trying to help.

The first appointees to the Commission set the pattern which, with few exceptions, has been followed



Dr. B. H. Warren, first Secretary of the Pennsylvania Game Commission. He began his service in 1896 and retired on July 7, 1898.

throughout the years. They were selected primarily for their recognized or professional ability and especially for their standing in the communities from which they came. Usually they were men with substantial incomes—men, who could not be hired to do the Commission's work, which they performed voluntarily.

More important, still, they were men of character and integrity, independent and non-partisan in thought and deed, and above seeking jobs for themselves and friends. There were no plums to hand out in those days and there are none today.

The men who have followed them through the years serving their State in this work have been selfless, in that they have labored for the common good and not for any advantages to themselves. Most hunters forget that their Commissioners work without pay and many dollars are expended out of their own personal funds in carrying on the work.

From the beginning most Commissioners were selected without regard for their political affiliations and usually represented both major parties. Consequently, Pennsylvania's Game Commission has never been a political football, despite several attempts to make it such.

For instance, Dr. Charles Penrose, who was a Commissioner for twenty-three years and President of the body for twelve years, was very instrumental in keeping the Commission on a non-partisan basis. His brother was United States Senator Boies Penrose and leader of the Republican Party for many years. When political friends importuned the Senator to insist that employes of the Game Commission be selected on the basis of political ability, the Senator would always say: "That is a matter in which my brother Charles is interested and I shall abide by his judgment."

All appointments to the Commission had to meet the requirements for the work and the staff was selected for efficiency and knowledge, rather than politics. Great care was taken in the selection of the staff and this policy was strictly adhered to until 1924, when the competitive examination plan for the selection of field officers was instituted.

The Commission has always acted

on the assumption that it represents all the people of the State and not just the hunters. It has been since its inception the guardian of all wildlife in the state for all persons, realizing that all wildlife is bound up inextricably in nature's pattern.

Even in those earliest days, many idealistic things were planned, but those first Commissioners were also practical realists and knew that their foremost problem was enforcement of what laws were on the statute books. Other things could wait. They must first halt the illegal practices that threatened the remnants of game left.

This decision was followed by one of the bloodiest, most perplexing and interesting chapters in the Commission's history. Tough Game Protectors laid down the law to equally tough hunters in the woods, sometimes facing known and armed criminals in the pursuit of their duty. It is extremely doubtful if Game Protectors were considered good insurance risks in those days.

Enforcement was a delicate matter from the very beginning. The Commissioners had to pick the men with the greatest care. The ideal was a Game Protector who would be utterly fair and impartial in all dealings with lawbreakers, but also, would be strict enough and rugged enough to stand up to some of the roughest characters in the state. These men had to go into the woods and face armed individuals who knew they were breaking the law and realized that, if arrested, punishment would be the result.

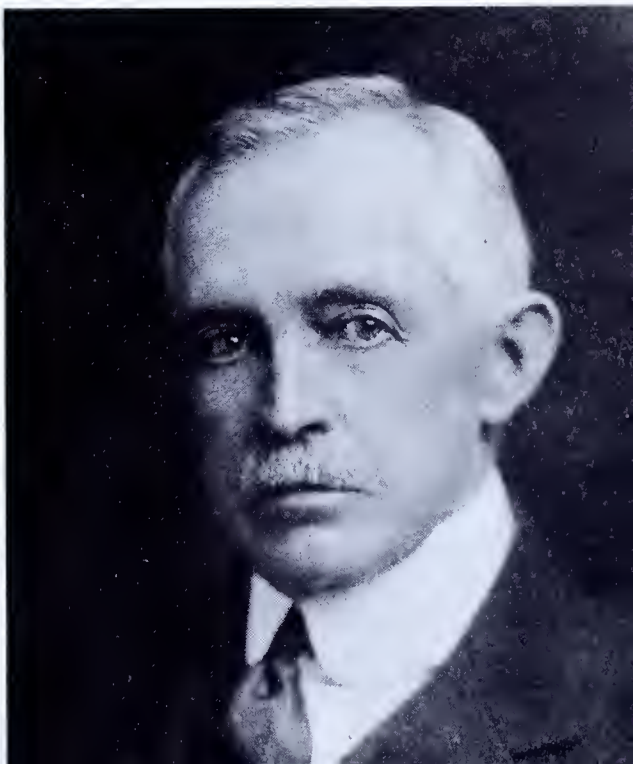
An Act of 1901 made it unlawful to interfere with Game Protectors in the discharge of their duty or for resisting arrest, but this didn't mean much to the lawbreaker holding a gun in the woods with no one to see. Being shot at was almost a common occurrence and according to early Commission reports, hardly a week passed by without an assault of some kind upon one of the officers.

For example, Game Protector Joe Berrier met with armed resistance in four out of five attempts to make arrests in Luzerne County and solved the difficult situation in his own inimitable fashion. He was compelled to use "extreme force" as the records put it, hammering two of the men to the ground with his fists and shooting the hat off the head of the third man.

How he persuaded the fourth man to put down his gun and behave was not recorded, but Joe had a reputation for being both tough and fair. Beside that a lot of people knew he carried a pair of .32 automatic pistols in his coat and he was known to shoot through the coat pockets quite accurately, which might account for his success as a persuader.

Enforcement of the game laws was entirely new to Pennsylvania and it stirred up a hornets nest when lawbreakers found out the Commission meant business. The Commission

William M. Kennedy, of Alleghany, first president of the Pennsylvania Game Commission. He served from November 17, 1896, to November 17, 1905.



established a policy that can be defined as "firm leniency," a policy which has been followed ever since by the Commission field officers in their dealings with violators.

Sportsmen and Commission working together managed to wrangle through the legislature laws prohibiting the sale of certain kinds of game in the state; the shipment of all kinds of game out of the state; the spring shooting of wild waterfowl; and, the killing of song and insectivorous birds for any reason, except strictly scientific purposes. These laws received national recognition and were soon adopted by other states and several provinces in Canada.

Getting these laws on the statute books was not an easy job, for there were all sorts of political stumbling blocks and lobbying against their passage, by marketeers and an association of wealthy men, all non-resident, who claimed by virtue of an Act of 1871, they had the right to do as they pleased regardless of subsequent laws.

Difficult as it was to push through Legislation, that was mild compared to the difficult task of enforcing these laws. An Act passed in 1899, set up the Constables of the State as Game Wardens for their respective Counties. This made it practically impossible to enforce the laws, since almost without exception the Constables either refused outright, or just simply neglected to do their duty.

While the Commission was permitted the employment of 10 Game Protectors and 46 Deputies by law, lack of funds did not permit such a staff. The Commission was compelled to employ Deputy Game Protectors, who received as pay, one-half the fines assessed against the law violators plus ten dollars for conviction, as prescribed by law. This system made many enemies for the Commission, particularly among the violators. Therefore, the staff of the Commission was much to small to cope with the situation, and they could little more than demonstrate the possibilities of the law. However, in 1903, they managed to push to conviction some 180 cases and lost 36.

In addition, there was definite evidence on the part of the Justices trying the cases to evade the law, not being in accord with it. Many inventions and subterfuges were practiced to avoid the penalties of the law, such as trying the case hours before the time set and acquitting the violator without hearing the evidence, or marking the docket "acquitted" without benefit of trial. All these things made it most difficult to get convictions even in cases where the violations were flagrant and evidence conclusive.

In the meantime the Sportsmen and Commission fought for an appropriation to carry on the work. In 1897, they were finally rewarded with the munificent sum of $800 to be used for postage and express for the next biennium. Until this time the work was carried on and expenses paid from the personal funds of the Commissioners and whatever aid they could solicit from those interested. In 1901, they succeeded in having the ante raised to $3,000 for the biennium, or $1500 dollars a year.

About this time another very grave situation arose to plague the Commission, due to the passage of an Act in 1901, requiring non-resident hunters to secure a license before hunting in the Commonwealth. The idea of having an un-naturalized foreign born resident secure a license to hunt did not set well with the foreign element, particularly the Italian people.

In his report to the Board of Commissioners in 1903, Dr. Kalbfus wrote: "The majority of these people seem to have no understanding of the law, claiming that this is a free country, and as such,. they have the right to

do as they please. Some are vicious, as has been clearly demonstrated by the shooting in different parts of the State, of numbers of our citizens this fall among the rest one of our Deputy Protectors, E. W. Campbell of Pittston, who, in turn, was compelled to shoot his man to save his life."

This situation grew steadily worse and officers who tried to make an arrest, were met by scores of people armed with guns, knives, shovels, picks, in fact, anything they could lay their hands on. They had calls and signals arranged, through which they warned their people of the approach of an officer or impending danger, and it was impossible to make arrests or secure convictions in almost every instance. When one of their number was arrested someone always appeared, paid the fine and obtained the release of the one arrested.

No one should imagine for a moment that the actual decision to form the Board of Game Commissioners nor its debut on the scene, immediately caused Pennsylvania to blossom again into the hunter's heaven it once had been.

The early years of the Commission into whose lap was dumped this Pandora's box of trouble is a record of heartaches, villification, antagonism and indifference—relieved only by the knowledge that the Commission was on the right track and by a certain grim humor that some of the ridiculous early situations provided.

Nevertheless, the two black centuries of senseless slaughter ended in 1896 with the naming of the Commission and every advantage the hunter has dates back to that period when a few courageous men took over the control of game in a state which had practically no game left.

(To Be Continued Next Month)

Dr. Joseph Kalbfus, the first full-time Secretary and Chief Game Protector of the Pennsylvania Game Commission, might well be considered the "Father of Wildlife Conservation of Pennsylvania." Through his resourcefulness, undaunted courage, and tireless energy while serving the Commission from July 1898 to August 1919, he overcame almost insurmountable obstacles, aroused public opinion and helped to blaze the trail for a lasting wildlife restoration policy.




Ned Smith

When Grouse Go Mad

By JIM HAYES

THUNDER, the grouse, swayed on the drumming log. His body weaved from side to side, as if in rhythm to some primeval chant. Autumn wind rustled dry leaves as the sun sank red behind misty ranges and the moon rose, full and pale.

The bird drew back his head. His breast swelled, his tail feathers extending to full fan. He began to drum, beating his wings faster and faster until the sound was the roll of a muffled drum . . . then subsiding into single beats and . . . silence. The grouse shook himself, ruffing his feathers.

Thunder grouse hopped from the log, ran swiftly, and roared up, scattering leaves as he flushed. Above the pine-tops he leveled and began winging down the valley. Faster came the wingbeats, and stronger, as if speed, only speed, could drive the madness from his brain. Hurtling blindly at top speed, he did not see the giant oak looming out of the darkness . . .

Next day, Bill Davis, a farm boy, picked up a dead grouse and examined it. Feathers were strewed at the base of the big oak. Bill thought it queer, finding a dead grouse this way. He tossed the bird aside and continued his walk, wondering.

Unknown to Bill, as to many, this grouse was a victim of "crazy flight," one of the strangest and most mysterious of all wildlife phenomenon. It is associated with the "fall shuffle," a term used to describe the breakup of broods, when young birds go off on their own.

The "shuffle" begins usually in September. The young grouse, which have ranged with the mother bird since hatching, begin to quarrel. Their wild instincts take them more and more from the brood; but always, at dusk, they return to roost with the group. With the first frost and the falling of leaves, their restlessness grows more frenzied. And, as the month runs its course, bickering between young grouse increases until, one by one, they drift off by themselves.

This isolation, finding themselves alone for the first time, increases their tension. They flush at the slightest sound or movement. If grouse meet, they stage weird dances. The cocks strut as in mating season while hens flutter nervously. Such encounters often end in combats, with losers being driven to new territory. And so, shunted from range to range, their madness reaches its climax. Some birds soar up in crazy flights, caring little where their wild wings may take them. Such urges may come at any time, day or night; and since the moon affords light for night flights, they commonly are seen winging through moonlit nights. Sometimes the "crazy flights" end in death when birds crash into trees, buildings or through windows. Cock birds seem the most deeply affected, although "crazy flight" is not uncommon among the hens.

Gradually, the madness expends their energy. With the cold dawns of late October, they calm down, return to normal habits. And, usually, all seems well in the grouse world to gunners going abroad for the opening of hunting season in November.

Night drumming is often heard during the "mad season." Normally,

this is a grouse mating signal, or call to combat. And, since grouse are not nocturnal, it is heard usually during daylight hours. In autumn, however, it becomes, seemingly, an outlet for their tension. W. E. Todd, in *Birds of Western Pennsylvania,* observes: "It is not unusual for grouse to drum in the fall months, although why they do so then is not easily explained. They have been known to perform on moonlight nights."

Causes of the "fall shuffle," of which "crazy flight" is the most startling manifestation, have long puzzled naturalists. Frank Edminister, in *The Ruffed Grouse,* observed that it may be due to irritation caused by internal parasites. And, "While the falling of leaves may well add to the nervousness of the birds, the crazy flight is merely an aberration of the normal fall shuffle—a social phenomenon that likely occurs with most sedentary species of birds and is well known to the bob-white quail."

Some writers—including this one—have sought vague connections between the moon and grouse madness. No less an authority than Ernest Thompson Seton, the late naturalist, noted an apparent tie-in between grouse madness and the moon.

"By a strange law of nature," he wrote, "all partridges go crazy in the November moon of their first year." The craze manifests itself chiefly by an urge to travel ("crazy flight"), Seton added. He offers the explanation that it may be a relic of bygone migration habits, effecting a breakup of the flocks and preventing constant intermarrying within the broods.

The grouse family does seem more widely affected by variations of sunspot cycles than most upland birds. Whether a related susceptibility to lunar cycles exists seems a not wholly implausible theory. Proof of such influence, of course, would be difficult to obtain.

In fact proof concerning anything in this field is hard to come by. And studies—such as this one—must be labeled as speculative theories—not absolute truths.

Certainly, the study of wildlife will never be an open book to mankind. Always there remain obscure corners, hidden mysteries to baffle the naturalist. But therein lies much of the fascination. The unknown and half-known—where they apply to wildlife—represent nature at its deepest, its darkest, its most consistent.

. . . The End

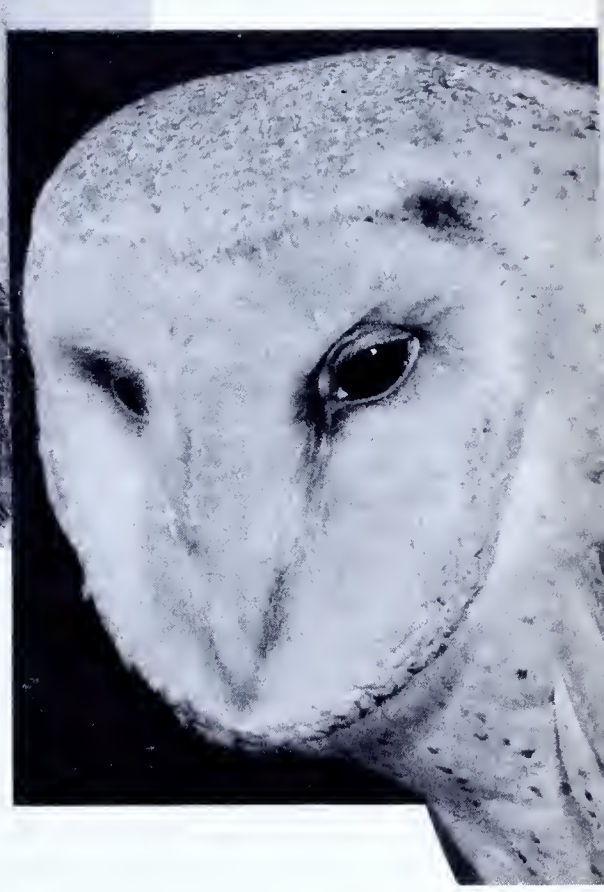
WILDLIFE HABITAT RESTORATION ON LARGE SCALE

On observing the Game Commission's modern practices in the Commonwealth's forested areas, a person naturally contrasts the powerful, mechanized tools employed today to the crude implements early settlers used in carving a new civilization out of Penn's Woods.

During the last fiscal year, Game Commission employes used heavy bulldozers, root rakes and tractors to clear or reclaim 1770 acres in timbered areas for food strips. On these and other areas, 1665 food plots totaling 2670 acres were planted with food for wildlife, and 1210 acres were mowed, fertilized or limed to improve nesting cover and provide additional succulent foods for wild creatures. Augmenting these figures, nearby farmers raised 2010 acres of grain shares on State Game Lands.

On the food strips planted, over 9600 bushels of grain were harvested to be used for game feeding elsewhere, but a sufficient amount was allowed to remain to supply game in the area with supplementary food. In addition, 170 acres of grain raised by share croppers were left standing for wild birds and animals. Also, 1272 separate farm food plots, totalling over 470 acres in open, privately owned, hunting territory where game thrives were purchased with Game Fund dollars. The last-named grain strips were allowed to remain standing to provide wildlife with food during the fall and winter months.





Outdoor Kids

By HAL H. HARRISON

THE day that Billy and Jane found a barn owl nailed to a farmer's fence, they felt very bad. Here was one of the farmer's best friends, a destroyer of field mice, hung on the fence like the worst criminal.

"I guess the farmer did not know the truth or he would not have done it," Jane suggested to Billy.

"I don't know, Jane. It seems to me that a lot of people don't want to know the truth. I heard a hunter say the other day that the only good hawk is a dead one," her brother replied.

Billy was right. In spite of all that has been done to show folks that the majority of hawks and owls are beneficial, there are still many who refuse to believe the truth. "The only good hawk is a dead one," is an old saying that has come down from one generation to another. It is amazing how many people still believe it. Many think it means owls too.

"A better mouse trap" is the way a farmer should look upon the barn or monkey-faced owls that live in his silo, barn, water tank, church tower or hollow tree. Their food is almost entirely mice which they find in the farm fields at night.

Most owls are active at night and sleep in the daytime. They take up at sunset where the hawks leave off. Together, the hawks and owls form a 24-hour patrol of our woods, fields and swamps.

In Pennsylvania, all hawks are protected except three: goshawk, sharp-shinned hawk and Cooper's hawk. These are the accipiters or bird hawks. All owls are protected except two: the great-horned owl and the snowy owl. The latter is an occasional winter visitor but the great-horned owl is a permanent resident in Pennsylvania.

The great-horned owl is our only large owl with ear tufts. These are really not ears; they are just decorations. The true ears are located elsewhere on the head. This owl has a wingspread of over four feet. The long-eared owl has ear tufts too, but it is a much smaller owl and its "horns" are close together. The little screech owl also has ear tufts. Screech owls may be gray or red.

The barred owl, one of our real "hoot owls," is almost as large as the great-horned owl. It has a large, round face.

One owl that often hunts by day is the short-eared owl. It lives in swamps and lays its eggs on the ground.

The saw-whet is the tiniest member of the family found in Pennsylvania. It is even smaller than a screech owl and has no tufts on its head. It is rarely seen.

All owls have the habit of throwing up wads of indigestible material, such as the bones and fur of mice. These castings are called pellets. The examination of these pellets discloses that barn owls rarely eat anything but mice.

Billy and Jane know of a pair of barn owls that have made their home in the silo of the J. W. Rowan farm near Evans City for the past six years. The Rowans protect these owls at all times. Why?

Well an examination of 203 pellets that Farmer Rowan took to Carnegie Museum in Pittsburgh disclosed that their owls had eaten the following: 614 mammals, including 429 meadow mice; 4 lemming mice; 1 pine mouse; 12 white-footed deer mice; 18 jumping mice; 21 star-nosed moles; 1 Brewer's mole; 95 large, short-tailed shrews; 3 long-tailed shrews; 1 least short-tailed shrew; 1 squirrel; 5 cottontail rabbits; 23 unidentified mice; and 5 small birds.

There wasn't the slightest evidence that these barn owls ever touched a chicken on the Rowan farm. Nor did they eat any game birds. It is no wonder that the Rowans say they have the world's best mouse trap on their farm.

Yet, not so many miles from the Rowans, Billy and Jane found the monkey-faced owl nailed to the fence.

That farmer killed his best mouse trap!

WHAT ABOUT TAGS AND TRANSPORTATION?

Small game, such as rabbits, squirrels, pheasants and quail, may be carried openly and transported only by the owner thereof. When carried in baggage or boxed for shipment accompanied by the owner, each package must have attached a card or tag bearing in English the name of the person owning the game with his place of residence, the name of the county in which such game was killed, and the number of each species of small game contained in the package.

Big game may be cut up and portions thereof transported if each piece has attached a card or tag bearing in plan English the name of the owner with his home address, his license and county number if the license bears such number, and the character of the contents of such package, so that the contents may be determined by an outside inspection. A big game animal, if properly tagged, may be transported anywhere within the State by any person.

Game may also be shipped to any taxidermist within Pennsylvania providing that a tag or other marking is affixed to the package bearing in English the name of the owner, his residence address, the name of the county in which the game was killed, and the number of species contained in the package. Shipment may be made to taxidermists outside the State if the owner first secures a permit from the Executive Director in Harrisburg.

It is unlawful to ship or remove dead game out of the Commonwealth except that taken by a properly licensed non-resident hunter in such numbers and in such manner as specifically provided for by the Game Code.



The November Trapline

By L. J. KOPP

IT is at this time of the year when the scent of a skunk automatically develops into something entirely different. It is no longer an offensive odor, for trappers that is. Right after the first two or three good frosts, the scent of a skunk is more pronounced, and to the trapper it is accepted with pleasure as a sort of challenge; a reminder that the time is at hand to harvest the new crop of wild fur.

Skunk, 'possum, and Coon trapping during November forms a combination which is almost traditional among trappers. Generally referred to as "common fur bearers," these three animals are especially active at this time of the year searching for food and preparing their winter quarters. Just prior to the time when they go into hibernation they require more food than usual, in order to put on fat which will keep them through the hibernating period. Therefore, since these animals are hungry, they can easily be attracted to sets.

Setting out a trapline for skunk, possum, and coon is not just a matter of pressing down the trap springs, setting the trigger, and setting the trap out on the ground somewhere, then nailing the end of the trap chain to a tree or fence post.

To set out a line of traps like this you should be systematical, and approach the matter from a phychological point of view. By this I mean that you should follow a system, and in order to do this it is simply a matter of knowing the habits of the animals, kind of trap to use, and how to set it.

We know first of all that the animals we are after are looking for food. So the first step is to know where they will look for food. Such places would be along old-time stone fences, fence rows, straw-stacks, old buildings which are no longer occupied, along streams, and rock piles.

The food which they find at these places consists of such things as mice, insects, grapes, and other berries of various types. Therefore sets are made around such places as mentioned previously, by building cubby pens, miniature tunnels of stones, or set in hollow logs which may be around.

Now getting the psychological aspect of the matter into this part of the trapline, we must understand that these animals have not been waiting around for you to come along and place out some of the food which they are accustomed to finding themselves. I mean by this that you should bait your sets with something which these animals do not ordinarily find. In other words, offer them something different. The reason for this bit of strategy is simply that you will have a chance of trapping animals even though they have already eaten all they want for the time being, when they happen to come upon your baited trap. In other words, an animal which has eaten its fill of mice, would not be very likely to attempt to get the mouse which you used for bait.

Generally speaking, your first step is to take advantage of the animal's hunger by baiting your traps. However, we know that not all the animals which come close to your traps are hungry, and so in order to overcome this situation you use a completely different bait, and thus you take advantage of the animal's sense of just plain curiosity.

When somebody offers you a plate of food, and tells you it is something you never saw, or ate before, your curiosity gets the best of you, and you will be anxious to taste this new food. It is the same way with animals. You could very well convert the saying, "Curiosity killed the cat," to "curiosity trapped the skunk."

What we want, then, is a bait which is different. It may surprise many trappers, but one such bait which I have found to be very good for all around use is sardines. These are preserved in oil, and some in mustard, both of which are equally satisfactory. One sardine, or small fish should be used to a set. Such a bait as this gives a farther reaching odor, and another important feature is that such a bait lasts longer than ordinary flesh bait. Peanut butter is another unusual bait which is used by some trappers for baiting skunk and 'possum traps. However since peanut butter is not among the coon's preferred baits, it could not be considered as an all around bait.

Traps are more or less a matter of personal likes and dislikes. The common number one trap, both long spring and under spring (the latter often referred to as "jump" trap), are good size traps for skunk and 'possum trapping. For coon, it is advisable to use nothing smaller than a number one and one-half. Many trappers use number two traps for coon. If possible such traps should be of the double jaw type. This, however, is not absolutely necessary.

After traps, the third point in this system is the proper setting and anchoring of traps.

When setting out traps for skunk and 'possum, the first step is to dig out a bed for the trap. This is done by simply using a small stick and digging up the dirt in an area large enough for the trap to fit in when set. The trap bed can be around three fourth inch deep. This trap bed is then lined with dry leaves cut into small pieces.

This is done in order to keep the trap from freezing solid to the ground. The day may be warm, but remember these November nights are pretty cold, and very often you will find your traps frozen solid the next morning. Dry leaves placed under the trap will prevent this, and thus you save a lot of trouble in resetting the trap. Also, when a trap is frozen fast, an animal can step on it, but the trap jaws won't close.

After the trap has been set in this manner, it is covered with a handful of dry leaves cut up fine, or torn into small bits. The idea is merely to spray some cut up leaves over the trap so as to break the outline of the trap. In other words, skunk traps should be covered. The same, of course, also goes for 'possum traps.

I have seen traps set for such animals, on top of the ground, and with the trap pan sticking up into the air at a forty-five degree angle.

This is all wrong. It is all wrong because an animal will not step on your trap set in such a manner, but will promptly step over it. Thus you miss a catch. The idea therefore is to set your trap in even with the ground, and cover it so that the animal won't see it, and in this case will most likely step on it, rather than over it. Here again we can compare our own habits with the animals. When you are walking along the road and should happen to find a rock in

your path, or some other obstruction, you would be more apt to step over it, rather than on it.

Some trappers have the idea that by setting a trap in a cubby pen, or hollow log, a skunk or 'possum would be forced to step on the trap. It is true that the animal would be forced to pass over the trap in order to reach the bait beyond the trap, but upon seeing the obstruction, (trap) in its path, would attempt to step over it, springing the trap, and leaving a few long black hairs between the jaws.

If you are troubled with many sprung skunk and 'possum traps on your trapline, try setting them even with the surrounding ground, and see what happens.

There is another advantage in setting traps in the manner which I have explained.

Skunks frequently escape from traps. This is due mostly to being caught by only a toe. The aim, therefore, would be for the trap to get a higher grip. This is usually the result when traps are set in even with, or a trifle lower than the surrounding ground, because the animal will step on the trap with its full weight.

The next step is to anchor, or fasten the trap. Here too, there is a right and wrong way of doing it. When done right, it goes a long way in helping to prevent catches from escaping.

The main thing is to anchor traps so that the animal will not be able to come to what is termed, "a dead pull." This means that traps should not be anchored to any stationary object such as a tree, fence post, or anything which the animal cannot move.

Take your camp ax and chop off a sapling, or a branch from a nearby tree. Select a maple sapling. Dogwood is also excellent. It is not necessary, nor is it a good conservation practice to use oak or hickory saplings, or any fruit bearing, or evergreen trees. This sapling, or tree branch should have numerous smaller branches on it, and it should be about one and one-half inches thick at the thickest end. Length could be from four to six feet. The trap chain is then fastened to the center of this drag with wire. The smaller branches on the drag proper will prevent the chain from slipping off.

Such a drag as this can be moved about by the trapped animal, and this will keep it busy, and in the trap until you arrive in the morning.

I have many times found a skunk or 'possum tangled up in among the smaller branches of the drag itself. Usually such a drag cannot be moved very far by the catch, and the main thing is that moving about will give the animal a feeling of "self confidence," thinking perhaps that it is making progress in getting away.

It is important to remember that a trap set for skunk or 'possum may also catch a larger animal such as a coon. For this reason it is best to always use a good strong branch drag. Do not use an old dry or partly rotten drag, for if a coon gets a hold of this he will shortly convert it into small pieces, leaving you with nothing except a torn up trap site, and drag.

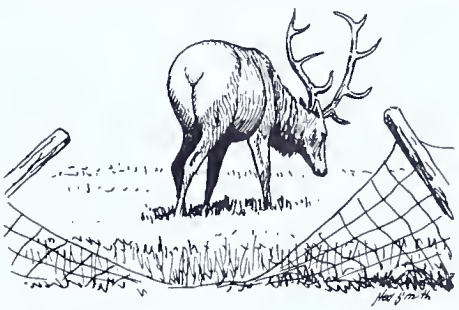
A few tips on placing the bait might be in order next. The bait should always be placed beyond the trap in such a way that the animal must cross over the trap in order to reach it.

Another tip is to try and place the bait so that it will be protected from rain. Bait placed in cubby pens where stones are placed over the top, or bait placed in hollow logs is protected from rain. At other places a good idea is to place a single oak leaf over the bait.



Don't Fence Elk Out

HICKS RUN—This summer we had our first damage from elk since I have been stationed in Cameron County and it happened to be damage to our own State Property. We have built a large wild turkey holding pen in the Hicks Run Section of State Game Lands No. 14. The large pen covers close to 40 acres and inside is a smaller pen that covers about one acre. This pen is enclosed by a six foot woven wire fence and inside of it we have a small plot of buckwheat. A small four foot gate on the inner pen caused the damage. At first, before the gate was finished, the elk would come along and walk into the small food plot by way of the gate but to our surprise, the very first morning after the gate was put on, we found that the elk just did not like the idea. They had knocked down the fence in several places to get in and also to get out. This happened several nights in a row until we finally drove the animals out of the larger inner pen. Incidentally, since we have planted about 60 acres of food plots in the Hicks Run section, we have seen more elk than in the past four summers that I have been here. The damage they do to the crops is not caused so much by what they eat, rather, by what they knock down in walking through a field of corn or buckwheat. Our Food and Cover foreman measured one of the elk tracks one day and found it to be 4½ inches across.—Game Protector Norman Erickson, Emporium.

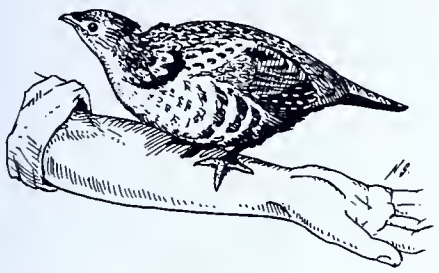


Bolt From The Blue

MILFORD—On August 28th I was called by James Hamilton to his summer residence on Red Ridge, Milford Township, and was shown a large doe deer which lay dead in the middle of his road. Upon investigation, I found the most unusual circumstances surrounded the death of this deer. One side of the road is lined with apple trees and the other side with maples. During the storm on Saturday night, August 26th, this doe was feeding on apples which had dropped on the road. Lightning hit a large maple under which the deer was partly standing, blasting a good sized hole in the earth at the base of the tree and killing the deer. The carcass had no visible marks on it and despite the humid weather and the fact that it had lain there all day Sunday, it showed no greenish spots or other evidence of the start to decay.—Game Protector John Lohmann, Milford.

A Bird In The Hand . . .

FREEPORT—What will a grouse do next? While talking to one of the rabbit farm cooperators, Mr. William Stroup, R. D. Freeport, I learned of another of the grouse's strange actions. It seems that Mr. Stroup walked about a quarter mile every morning to catch a ride to work. On these mornings he acquired the habit of carrying a handful of scratch feed to put out for several grouse that were in the neighborhood. On August 17th,



he took his scratch grain and started to work. While he was waiting for his ride, the absence of the birds began to puzzle the man since they had been showing up regularly before. Finally, he heard one coming up through the woods so he sat very still holding the grain in his hand. The grouse kept straight on coming and much to Stroup's surprise, jumped on his forearm and remained there for about a half minute. It jumped down then and when the man's ride came along, the grouse was still feeding on the scratch grain.—Game Protector H. E. Greenwald, Vandergrift.

Between The Snake And The Spillway

While on a field trip to the Pymatuning area, I observed a water snake attempting to catch a catfish in the shallow water of a spillway. The catfish, in its struggles to elude the snake, wiggled out of the water and up on the stones at the edge of the spillway. After killing the snake, we returned the catfish to water where it swam away apparently uninjured. I had seen water snakes catch fish before, but this was the first instance where the fish actually came out on the shore to avoid being caught.—Student Officer, Blair Thomas, Ross Leffler School of Conservation.

Moose Deer

WILLIAMSPORT—One evening in July I passed a pond back in the mountains and noticed a doe standing in the water with her head under the water until only the tips of her ears were in sight. I watched her for awhile and then timed her as to the length of time her head was under water. The best she could do was about 50 seconds. Then she would come up with a mouth full of some water plant, take a breath, and go back for more.—Game Protector Levi Whippo, Williamsport.

Like Mary's Little Lamb

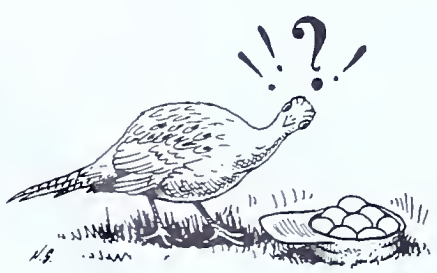
GIRARD—One evening in July a woodchuck hunter and his father were hunting east of Girard. He had just shot a chuck when he looked to his left and saw a deer. About the same time his father called and pointed out a large red fox. The men were pretty busy looking for a few minutes but the fox soon left the scene. The deer did not seem to be alarmed at all but as the two men walked toward it, they expected to see it take off at any second. Much to their surprise, the men were able to walk right up to the deer. They petted the animal, fed it tobacco and the deer liked everything, including the attention. Finally, figuring that no one would believe their story anyway, the hunters started for home. To their amazement the deer followed about 30 feet to the rear. The men walked to their home in Girard with the deer following behind. There they took pictures of it, petted it some more and gave it food. By that time quite a crowd had gathered and as dusk fell, some of the men decided that it was time to take the deer back to the woods. They finally managed to entice it away with some more food and led it to a secluded



spot where they planned to bid the deer farewell. However, the deer still refused to part with its human company. Not knowing what else to do, the men finally decided to make a run for it, hoping that the deer would stay in the woods. Accordingly, they ran as fast as they could. What happened? After racing a considerable distance, the men looked back over their shoulders to see the deer racing right behind them. Try as they did, they just couldn't get rid of that deer. Eventually, they returned home with their deer hot in pursuit. Then they decided to call the Game Protector for help. During the interval between their call and our arrival on the scene, the deer had nonchalantly ambled out of town on its own and had disappeared. Three nights later another call was received stating that a tame deer was in the schoolyard of the Girard Grade School. I made another hurried trip, but it was gone by the time I got there. Now I am wondering. About two months ago I chased a "tame" deer into the woods on the outskirts of Albion. Now another "tame" deer of the same description in and around the town of Girard. The two towns are about 12 miles apart. I wonder?—Game Protector Clair Dinger, Albion.

Mother Instinct

REEDSVILLE—Mr. Jim Bonson, a farmer near Reedsville, Mifflin County, reports that while mowing a field of hay, he ran into a ringneck pheasant nest. Several of the eggs were broken. He placed the remaining good eggs in his cap and left them on the ground, intending to replace them in the nest after he had made another cut around the field. When he approached the spot again, he found the ringneck hen on the eggs in his cap.—Game Protector George Smith, Lewistown.



Rat Killer

MT. JEWETT—On August 11, 1950 Mr. Edward Dahler of Mt. Jewett called at my home and related the following: He and his boys were down at their chicken coop pouring water down a rat hole to drive out the rats while their little white dog stood watch at another hole. All at once a young rat came out, the dog caught it, the young rat squealed, and the old mother rat came to its rescue. The large rat jumped on the dog's back and bit the dog at the base of the skull, killing the animal instantly. The dog was a long haired animal about three years old and would weight about 15 pounds.—Game Protector Bill Carpenter, Mt. Jewett.

Coal Mining Beavers Don't Bite

JOHNSON RUN—While checking a beaver damage complaint on Johnson Run near the Walburn Coal Company Mine, I stopped to talk with a Mr. Jackson, the Mine Foreman, and he related the following story: While making a routine check of the mine, I heard something ahead of me along the heading. Upon investigating I found a large live beaver weighing around 40 pounds about 500 feet inside from the entrance of the mine. I caught it by the back of the neck and carried it in my arms outside where I returned it to Johnson Run." From the experience I have had with beavers, I believe Mr. Jackson was fortunate in not having been severely bitten.—Game Protector Ed Richards, Portland Mills.



New Way To Catch Fish

ELYSBURG—Here is a new way to catch fish. Last spring I erected quite a few wood duck nesting boxes on islands in the Susquehanna River. During high water several were torn loose. While making a duck survey the latter part of June, I decided to see if I couldn't locate some of them. We found one sunk just below the tree it had been attached to. Upon raising the box from the water, I noticed a movement within the box. Very carefully I poured out some of the water and saw two nice catfish, one about 9 inches and the other about a foot long. To me, that is a new use for a wood duck nesting box. —Game Protector Clyde Laubach, Elysburg.

In Case of Skunks . . .

WALLINGFORD—One of the boys at a private school in Wallingford found two young skunks. They seemed harmless so the teacher allowed the boy to take them to his room. When the skunks were let loose, they "cut loose." It was impossible to stay in the room but finally a visiting salesman suggested they use "Air Wick." To the surprise of everyone, the odor was gone in about an hour and a half.—Game Protector Dan McPeek, Boothwyn.

Chasing the Coon Around

READING—On May 8, I received a call that a raccoon was on a roof in downtown Reading. At 5:00 p.m., while Penn Street was crowded with people going home from work, the 'coon was leading me a merry chase across the house tops overlooking the street. The animal finally crawled into a chimney and remained there despite the fumes from an oil burner. I set a box trap and baited it with corn. That spelled the end of the chase for Mister Coon.—Game Protector Joseph Leiendecker, Reading.

Fox Bites Man—Almost

INDIANA—On the evening of July 21 Dale Mitchell, R. D. 1, Indiana, brought a gray fox to my office and told the following story. He stated that he was working on his car on his front lawn when he heard something barking like a young dog. He didn't pay much attention to it but as it became louder, he stopped his work and looked up to see what was causing the noise. Running straight for him was a gray fox. The man watched until it got about six feet from him and then, when the fox sprang for him, he quickly jumped out of the way and grabbed a piece of board lying nearby to kill the animal. An examination later showed that the fox had rabies.—District Game Protector Bruce Catherman, Indiana.





The Aid of a Dog

By HERBERT KENDRICK

THE WILDERNESS woodlands are loaded with the riches of color while the crisp fall air creates new vitality for the sportsman who hunts in November. Year after year greater dogs are produced and developed, better equipment is manufactured, and more gunners are introduced into our great and happy hunting fraternity, yet there are still many many men who diligently hunt the woods and fields without the aid of man's best friend. It is sad enough that these individuals miss the beauty and the glory of high class shooting dogs, but the real pity lies in the fact that great quantities of game are wounded and left to die because the gunner depends on his sight to recover his game rather than the keen dependable nose of a dog.

It is a far greater thrill to go afield without a gun than to hunt without a dog. With shorter open seasons the necessity for a good dog is even greater because such ownership affords the sportsman the added pleasure of association with the animal the entire year. Many satisfactory leisure hours may be spent with a dog preceding and following the gunning season.

Pride in ownership, independence in hunting, conservation of energy, peace of mind regarding cripples, championship, plus the thrill of beauty in a perfect performer, are only a few of the great assets of hunting with a dog.

The breed of a dog a man may select is of no great concern to those of us who love dogs. We love the man who loves and understands *a* dog. I have hunted over great field performers, followed the field trial winners, listened to the melodic music of the hounds, watched the retrievers and thrilled to the action of the tiny cocker, enjoyed every moment of superlative dog work by specialists in each field. These experiences have taught me, beyond doubt, that the sport would be lost without the dogs.

The individual who carefully selects a puppy from pedigreed parents and remains close to him through the long and difficult task of education and training will see his pupil enhance his field trips a thousand fold. The baby pup pulling at his mother, the first flash point on a butterfly, first signs of intelligent reasoning, early field work with the big dogs, his first find, the beauty of his points, gentlemanly backing, the first retrieve are all phases of the great art of gunning which makes the sport the greatest of them all.

If you have schooled and handled your own dog from puphood, the day you take him on a hunt a great part of you goes with him on every cast he makes, and if you have handled him well he will work harder for you than for himself. You will be lost and lonely without him, and no hunt will be complete unless he shares the spotlight with your gun.

If you seek grouse in the forests and have the best of human companionship, returning in the evening without game, and with a feeling of failure as a hunter, picture the same day with the aid of your own dog.

You would see dog work that would make any day a success and afford you a full topic of conversation for the evening around the camp fire.

It is not strange to me where gunners gather the highest points of interest and the most lasting memories are those of the dog's accomplishments rather than the amounts of game bagged. Memories of heavy hunting coats fade quickly but the brilliant retrieve will live long after the season has passed.

Having talked with many game protectors and farmers it is encouraging to hear that small game seems to be plentiful this year. The grouse cycle is definitely nearing the peak year which accounts for a more lengthy open season this month. Reports from my favorite haunts in other states are extremely optimistic at this time and I am looking forward with much pleasure toward seeing some excellent dog work on grouse this season.

The northern country furnished a good nesting season for woodcock and certain sections of our state should give us an unusual opportunity to give our dogs some experience on this grand little game bird. Don't ever sell the timberdoodle short as a sporting target nor as quarry for a bird dog.

With the well planned restocking program of the Game Commission under the able leadership of our fine sportsman executive director Tom Frye, our dogs will be able to spend many pleasant hours in the field with nostrils filled with pheasant scent.

Please go easy on the quail in the sections where the season is open. The little fellows had a rough time during that horrible winter some years ago, and they are trying desperately to stage a comeback. Take only a few, but give your dogs a lot of work on this game that synchronizes so well with the pointer or setter.

Spend as much time as you can outdoors this month taking advantage of every opportunity to hunt over good dogs. If you do not own one make plan now to procure one that will be ready for finished action next season. You will never regret the time, money, nor care you wrap with a dog. He will capture your heart and furnish you with glorious thrills which are memories never to be forgotten.



A pointing quartet of German shorthaired Pointers owned by Roy Anders of Perkasie, Pa. Shown here in Bucks County are the sire, dam, son and daughter of a great dog family, each one a champion.



Two Animal Hyacinths

By JOHN F. BLAIR

THE "Animal Hyacinth," more commonly known as the skunk or pole cat, is listed as a furbearing animal and is very common in most parts of the State of Pennsylvania. The name "Animal Hyacinths" being derived, without doubt, from the perfume which it throws off from time to time, especially when scared. It has an odor all its own and once an individual comes in direct contact with this perfume it leaves a memory that will never be forgotten. I know.

It has long black fur, sometimes with only a white cap on its head and sometimes with 2 white stripes down its back. It feeds mostly by night although they have become so numerous in some sections that they may be seen many times in the daytime, wandering around in search of something to eat. It is one of the seven sleepers and partly hibernates during the severest part of the Winter.

In the warmer months its food consists of bugs and grasshoppers, fruit and berries. It is also a meat eater and kills many mice. It is also an egg eater and devours the eggs of many ground nesting, insectivorous birds. The eggs of the quail ringneck, grouse, duck and wild turkey are on its approved diet and once a nest is found every egg in it is destroyed. The nest full of young rabbits is duck soup for the skunk and they find plenty of them.

The farmer's poultry yard is never immune to this prowler unless enclosed by a tight fence. Many a turkey nest or duck nest has provided him with a midnight snack and many are the young chickens that have made him an early breakfast.

He does some good and he does some bad. When he is around in only moderate numbers the good he does probably offsets the bad. Of late years they have become so numerous in many places that they have become very destructive. They really work havoc on a sweetcorn patch, once they get started, climbing up the stalks and breaking off and eating the ears.

To control these animals the Game Commission at its July meeting, placed them on the unprotected list. We hope that this action will tend to bring them under control but the value of their hides is so small that unless fur prices advance a lot, very little special effort will be made to trap them. Some farmers like to have them around in limited numbers.

There is another species of "skunk" in Pennsylvania. They are limited in numbers but the odor that comes from their activities is more far reaching than that of their little black relative. They have a wide yellow streak all the way down their back and a yellow belly. Some have hair on top of their heads and some have none. They hunt either by day or by night. Wherever found they are destructive and farmers and the Game Commission would like to have them actually exterminated. They are listed as a predator in the mind of the sportsmen and the Game Commission

and are at all times unprotected. There are not many of them, thank goodness, but wherever there is one, there is one too many. The depredations committed by one "skunk" of this species many times offsets in the farmers eyes the good that has been done by many sportsmen and by the Game Commission.

Here are some of the depredations from which the stench arises:

1. Shooting a farmer's poultry or livestock.
2. Breaking down fences or even cutting them.
3. Walking across newly seeded fields or thru grass fields.
4. Shooting too close to the farmer's buildings or stock.
5. Starting a field fire by throwing away a live match or cigarette.
6. Leaving gates open or the bars down.
7. Driving into fields to park or parking in driveways.
8. Filling his coat with the farmer's apples.
9. Digging out holes in open fields and not filling them in.
10. Allowing dogs to run through and frighten livestock or poultry.

The odor that arises from depredations such as these often reaches far beyond the limits of the county in which they are committed. It is depredations like these by the two legged skunk that is causing more and more land to be posted each year. The farmers as a whole are the most agreeable bunch of men that any one could want to work with, but they like to have their rights respected. Most of them are not selfish about the game on their land, and most of the posted land was brought about by the action of this species of skunk. Posting land however, many farmers have told me, does not accomplish the desired result. The hunter who would respect the farmers courtesy sees the signs and drives on. The hunter who has caused the signs to go up drives around the land and climbs over the back fence and hunts until chased off. A successfully operated Farm Game Project is the nearest answer that has been found to the farmer's prayer in Pennsylvania. About ninety-nine percent of the Co-operators who join a Project are better satisfied than if they posted their land against hunting. The other one percent wouldn't be satisfied if hades froze over. There wouldn't be any place to send all the hunters.

If the real sportsmen of the State ever hope to see those "No Trespassing or Hunting" signs come down they must form forces with the officers of the Game Commission and report depredations when they see them. We will handle the case from there and each conviction will mean one less skunk in the field the next year.

BEAR DAMAGE CLAIMS PAID FROM GAME FUND

The Game Law authorizes the Game Commission, following investigation and certification by its officers, to "pay for any damage done to livestock or poultry or for protection to or damage done to bees by bears upon lands open to public hunting . . ."

During the Commission's last fiscal year, June 1, 1949, through May 31, 1950, seventy-one claims totaling $1,803.52 arising from bear damage were paid. Following their destruction by bears payments were made for 17 sheep, 102 beehives, 7 hogs and pigs, 1 calf, and 1 goat.

Nineteen counties were represented on the claims list. Elk, Lycoming, McKean, Potter, and Tioga Counties received the bulk of the bear damage payments.



Diana Goes Shopping

By GRACE O. BEACH

Yesterday and Today

WHEN Dad said, "Come on, kids, let's go hunting," there was a real flurry of activity in the old farm house as we scrambled into our clothes. What a picture we made in our hunting outfits—blue jeans (we called them overalls in those days), old coats with a square of red calico pinned across the back by safety pins, and a red tassel cap to provide the necessary safety precautions. In this outfit we alternately shivered, melted, and soaked up rivers of rain as we happily tramped the fields.

Through the years the blue jeans held sway but we learned through bitter experience to bolster them with "longies" and later, with the advent of slacks, to double up for warmth. Hunting clothes for women were not displayed on the store shelves in those days. In fact, there weren't any other women in the hunting field for miles except father's daughters. We played the part of the sons he never had.

Every woman who has had experience in the hunting field can vouch for the fact that comfortable clothing can be a wonderful asset toward the full enjoyment of the day afield. Dressing for the weather is a must. Small game season always poses a problem for some days are exceptionally warm while others are chilly or damp, or a combination of both.

Today, with more and more women engaged in the sport, hunting clothes are now available through your local sporting goods dealer. Even so, there is not a great selection of women's apparel for small game season.

Clothes Make The Woman

Hunting clothes, unlike other types of women's apparel, should not be designed entirely for looks. Field clothing must compromise between the attractive and the durable since, brush, briars, and brooks demand a rugged fabric that can take a real beating.

Nevertheless, manufacturer's of women's hunting clothing have combined beauty with ruggedness and many of the pants, jackets, hats, and shirts on the market today are most becoming. In this writer's opinion, the most practical and most attractive clothing is manufactured from cloth that is especially designed to be rain, wind and snag proof and can be obtained in several soft shades of brown. Several large companies are now marketing complete suits of this material especially designed for women.

A bloodproof, washable game bag is a "must" in small game hunting clothes, that is if you aim to bring back some trophy of the chase. These game bags are either made as an integral part of your hunting jacket or they can be obtained separately and strapped over your shoulders. Either the game bag or the jacket, or both, should have plenty of pockets and most of them have plenty of shell loops to hold your ammunition.

Pants can be obtained either with wool knit anklets which fit snugly into your hunting shoes or boots, or with straight bottoms, whichever you prefer. Front pleats below the waistband and side zipper give a neat appearance.

Gun Shopping

Shopping for a long wanted gun is more fun than shopping for a dress or hat and for this Diana, far more thrilling. A hat is gone in a season or two, but one's gun becomes a prized possession. Through the years it takes on a personality peculiarly its own. By close association and many days afield it becomes a part of you. You handle it lovingly, clean and shine it gently and in return it works with exacting precision, dependable for a lifetime of service and fun.

Having had a yen for a certain gun for some time, the urge to possess one finally took complete control and the shopping tour began. Some of the information gathered may be beneficial to those of you who are contemplating the purchase of a shotgun for field and upland game shooting.

One of your first considerations should be given to the weight of the gun. Toting a heavy gun all day can be very exhaustive and takes most of the pleasure out of hunting. For that reason, the lighter 16 gauge, 20 gauge and .410 gauge guns for use in the field are most popular with women. They are becoming increasingly popular with men for the same reason.

In the light weight guns the Winchester Model 42 pump, Remington and Ithaca pumps and the L. C. Smith and Stevens double barreled guns are all popular models. Naturally, the wood in each helps to make some difference in the weight. Also to be considered is the Winchester Model 21 weighing around six pounds. Of course the single-shot shotgun is lightest of all but it must be remembered it is strictly single shot.

Prices will vary, depending on type, make and style of gun. For instance, the Stevens in tenite stock and forearm is the lowest in the price range of those mentioned and others vary in range upward to $285 for the Winchester 21 model. Within this range there are good guns suitable in price to the amount the budget can successfully absorb. In shopping for your gun don't overlook the over and under barrel which has the advantage of single sight plane.

Auto ejectors, single trigger, beavertail forearm, raised or ventilated ribs are usually extras and add a little to the price of your gun.

Your next consideration will be the choke. Here the situation varies, depending upon the type of shooting to be done. The improved cylinder, skeet boring and modified choke are among the most popular for field shooting. Long range shooting requires a longer barrel and tighter choke. The length of the barrel will also depend on the type of shooting but the 26 or 28 inch barrel are most popular for field and upland game. In the over and under and side by side double barreled guns, one may have two chokes, one on each barrel. The pump guns have only one choke but you can employ a choke device as compensator.

There are various choke devices being put on guns today, such as Cutts Compensator, Poly Choke and Powerpac which help to control the pattern of the various guns to the type of shooting.

With all good intentions, advisors will tell you what pitch, drop and length of stock you will need. Unless the gun you buy is definitely out of proportion, try it out before you have any alterations made. After you have tried out your gun any reputable gunsmith can make the alterations necessary to suit your individual requirements. This is particularly true for the novice shooter.

For shooting, the standard velocity shells are sufficient for game; however, some hunters prefer to use the high velocity shell, although the recoil is somewhat heavier because there is more powder and shot contained within these shells.

Number six shot is most popular for general use but here again you have a variation for different types of shooting as well as the gun and choke. It is strange but true that no two guns seem to give the same pattern, although made by the same manufacturer.

The final choice remains with you. Most sporting goods dealers are well versed in gun lore and can be of great help in advising you. The writer recommends no specific manufacturer or model. Happy shopping.

Shooting It Out

A 1950 modern and youthful Annie Oakley gave officials, shooters and visitors to the Grand American Handicap at Vandalia, Ohio, late this summer, the greatest shock in fifty-one successive competitive tournaments.

Perfect scores are made, records are broken, anything can happen and generally does at Vandalia. But when 18-year-old Joan Pfleuger, a high school girl from Miami, Florida, walked away with the Champion of Champions event she created the greatest sensation of any event to date.

Cooking Secrets

A family of hunters bringing home game caused Mrs. Estella Hornberger of Lititz, Pennsylvania, a bad time for awhile. At first she prepared the game just as she would beef or other meat, but it didn't go over very big with the family. That caused her to do a little thinking and experimenting. Finally, she mastered the art of cooking wild game. Now her family and friends thoroughly enjoy the dishes she serves, cooked by her own special recipes.

Mrs. Hornberger has long been a reader of GAME NEWS and she decided to share her secrets with others. She sat down and wrote us a nice letter and sent along quite a few of her favorites. As she so aptly put it in her letter: "Game can be very delicious if properly prepared and these recipes might be helpful to other readers."

We appreciate and thank her for her thoughtfulness and willingness to share her recipes. They came just in time to include two of them for small game in this month's issue.

Fried Rabbit

After game has been dressed and cut into pieces, wash well and soak in salt water. Rinse and place in kettle with water to cover. Add three or four strips of celery and one onion and parboil. Drain off water and dip pieces in beaten egg to which has been added ½ teaspoonful of parsley flakes, salt and pepper. Roll in bread crumbs. Fry in hot skillet greased with Crisco till well done and brown on both sides. (Cornflakes rolled and added to bread crumbs gives an added flavor.)

Raw Fried Rabbit

Take pieces of rabbit that have been well washed and drained, put in paper bag with a few spoonfuls of flour, hold bag at top and shake well so pieces will be thoroughly flour-dusted. Lay pieces in hot skillet with a few slices of bacon and one onion. Salt and pepper to taste. Fry until well done and brown on all sides. If you care for a highly seasoned flavor use one tablespoonful of mustard, one tablespoonful of horseradish, two tablespoonfuls of catsup, pour over meat when nearly finished. This gives a delicious flavor to game.

Mrs. Hornberger prepares squirrel, rabbit and pheasant in this manner. They sound good to the editor.

. . . *The End*





FOOD AND COVER DEVELOPMENT PROGRAM EXPANDS

In managing approximately 900,000 acres of State Game Lands and other leased forest areas, the Pennsylvania Game Commission engages in many practices beneficial to wildlife. Among these, timbering operations rank high. They are carefully administered in the belief that trees and forest wildlife can be raised on the same land without detriment to either. Soil and timber conservation practices are always kept in mind by the game body in its management of forest areas.

In the Commission's last fiscal year, approximately 1200 acres of State Game Lands were improved through forest cuttings. These timbering operations netted the Game Fund $67,848.00. Products removed included 2,860,000 board feet of saw timber, 4500 tons of mine timbers, 5360 cords of paper and chemical wood, 127,250 posts and mine props, 470 cords of firewood, and other miscellaneous products.

The Commission pressed these other activities last year in its drive to improve wildlife habitat in forest areas: Inferior species and overshadowing tree growth were removed from around game food-bearing plants, allowing them to expand and produce larger crops of fruit. Other trees were selectively cut in order to produce a better forest and provide an increased amount of deer brouse, acorns, beechnuts and other wildlife foods. Through the use of bulldozers, land was cleared for food strips and much-needed forest openings were created.

An important phase of the food and cover operation was the pruning of nearly 30,000 fruit trees to increase the quantity and quality of their fruit. In addition, many mature trees were grafted to produce various species of fall and winter apples so that game will have food available over a longer period of time. The pruning and grafting operations were scattered, making the results valuable to great numbers of game over a widespread number of tracts under management by the Commission.

PGC Photo by Batcheler.

A 200-pound cinnamon bear, unusual color phase of the black bear, with a fondness for corn-on-the-cob was killed for crop damage near Woolrich, Clinton County last summer. Shown inspecting the "Bear Blonde" is District Game Protector Miles Reeder of Lock Haven.





Patterns Tell the Tale

By ED SHEARER

NOVEMBER is the month when the scatter gun really comes into its own. It's the symbol of misty mornings, the baying of hounds and the whirr of wings—of quail or grouse in the coverts or wildfowl in the marsh. It's the most widely used gun in the field today.

As you listen to the popping of the guns and the shouts of the hunters, you realize that here is the training ground of our youth for war or peace. As long as we can make the outdoors endure, we shall never lack the opportunity to mold a nation of able bodied, self-sufficient marksmen, ready to defend all that is great in America.

Among the most interesting features of hunting, however, are the reflections at the end of a day afield, recounts of the successes, failures, and "in betweens." Years of these most interesting "post-mortems" have shown me that very few shooters have any idea about the performance of their weapons at the range where they take their game. If birds are "feathered" and keep on going, most hunters simply switch to a larger shot size.

Take the case of a chap I used to hunt with. He was a fairly good game and trap shot. One year he turned up with a new double gun of which he was mighty proud. His scores at the traps had boosted his confidence in this gun. That day we had been hunting ringnecks over a wide, fast little pointer that really knew her ringnecks. The result was that the birds were pinned down tight and the shooting was close and mostly open. My companion missed his first shots fairly consistently all day, especially when we ran into some quail. He did fairly well with the second barrel so the day's end found him with a satisfactory bag.

That night, as we sat before the fire, he tried to figure out the day's performance. "I can't understand it. I miss the easy ones and connect with the hard ones. It just doesn't make sense," he wailed.

"Did you ever pattern that gun," I asked him.

"Pattern! Of course I did, out at the gun club. The right barrel ran 55 percent and the left ran 73 percent on the 40 yard range. And besides, I didn't have any trouble breaking the clay birds," he replied scornfully.

I said no more. But the next morning before starting out I tacked up two sheets of newspaper and stepped off 20 paces. "Now take a shot with each barrel and don't argue about it," I instructed.

Deliberately he fired a shot with each barrel and we moved up to inspect the sheets of paper. The supposedly modified barrel had thrown its charge in a neat 13 inch circle. The full choke had thrown its charge in a 16 inch circle. My friend looked at me in a silence that spoke volumes.

"There is no mystery about it," I said. "To start with, when you patterned this gun, you shot it at 40 yards. The clay birds you've been shooting ran about 30 yards. These ringnecks you've been missing are at

15 to 20 yards or just about half the distance. Now, no matter how fine that gun may be, for clay birds or ducks at 40 yards, it's no gun for ringnecks when you're shooting over that dog. Another joker is that you patterned that gun with 7½ trap load which is what it was tested with at the factory. That's the reason that it shot about like the boring marked on the barrels. It's been common knowledge among barrel borers for quite some time that modified barrels will often handle various large size shot more satisfactorily than some full chokes. In this particular case it outshot the full choke at this range."

"All right, Solomon. What do we do now?" he grinned.

"Stick these 7½ shots in the modified barrel and let them get out to 25 yards where you will have at least a 26 inch pattern to go on," I replied. The proof of the pudding was that his shooting came back to normal at once.

The first time I had the importance of pattern to range impressed upon me, I was taking a course in "duckology" from the famous "Old Ben" on the shores of Lake Erie. Old Ben was a duck specialist who scorned all other varieties of fur and feather. But ducks—Old Ben had not only made their pursuit an art but had raised it to the plane of an exact science. Furthermore, he was a perfectionist. The blind had to be just so. The decoys had to ride just right and the formation was suited just right for the various species. Even wind direction was considered in great detail.

To shoot well was an obligation when you were with Old Ben. To fail meant being relegated to retrieving the dead or chasing a cripple all over the marsh. Ben shot a beautiful old 10 guage Parker with 32 inch barrels, full and modified. His shells were loaded to order. As I recall it, the load was 4 drams of Deadshot and 1¼ ounces of No. 6 chilled shot. Pattern sheets nailed to the wall of his workshop attested to the fact that Old Ben knew where that old Parker shot at any range. At his favorite blinds, he had a few unobtrusive stakes in the water. One cold morning, after watching him arrange the decoys in relation to the stakes, I asked him what the idea was, thinking he was up to some hocus-pocus.

Shifting his "cud," he eyed me quizzically. "Weel, sprout, it's like this. Effen the ducks don't slant in beyon't them stakes, they's too fur. When they's over ther blocks, ther too clost. Yu take 'em in tweenst. Thet's where you've the most lead in the most air."

That was a quarter century ago and Old Ben has gone to his eternal hunting ground. We have a new generation of shotgun pointers. Yet I believe that with all the improvements and easily available ballistic information, the younger generation knows little about gun performance under field conditions, compared to the hunters of a generation ago.

This is caused in large part by the long range advertising and rivalry among our arms and ammunition companies. This advertising has turned out to be short sighted as far as customers are concerned. It's not the duck, rabbit or ringneck at 60 yards the average hunter is interested in. It's dollars to doughnuts he won't hit 'em anyhow. If the advertisements stated that the spread of the pattern at the range the average game is really killed, these long range guns and loads would not look so good with about a 17 inch spread. There are few good gun pointers in the field today that can work on that margin. The great majority of us need as near a 30 inch spread as possible at the range we kill our game.

. . . The End



NO BAD NEWS ON "GAME NEWS"

Dear Sir:

Everyone here is well pleased with the new style of format of the "Game News." The smaller size seems to appeal to all I have talked to. In general the magazine seems greatly improved and you are to be commended on this improvement and on your new course in conservation education. Only through this channel will our children be privileged to enjoy God's great outdoors which we believe is our heritage. You cannot accomplish this through enforcement. You would have to have thousands of enforcement officers. Education is the only way and I believe it is up to every individual to see this program put over.

Yours very truly,
Andrew Z. Hileman, Sec'y-Treas.
Federated Sportsmen's Clubs of McKean County.

———

Dear Sir:

. . . It is by far the best copy I have seen. Enjoyed all the articles and particularly the one written by Mr. Kopp on prospecting a trapline. You and your department deserve a "Well Done" for this issue. Keep up the good work.

Bill Benwell,
Plainfield, N. J.

———

Dear Sir:

. . . Congratulations! The magazine is much improved, especially with the new type and the article on grouse.

Regis J. Timm,
N. Braddock, Pa.

Dear Sir:

. . . I like the way all stories and articles are kept in page sequence and not continued in later pages. You will have more cover to cover readers.

George W. Stroh,
Lancaster, Pa.

Editor's Note: Reader response to the new "Game News" has been most gratifying. Of the many letters received with specific mention of the many changes, none have disapproved any of them. We welcome constructive criticism of the magazine and aim to do everything possible to satisfy the desires of the greatest number of our readers.

Dear Sir:

While at our hunting camp this past deer season, we were having one of our regular "bull sessions" one evening when one of the men brought up the question on whether or not the Game Commission in the past 15 years has any record of having live-trapped any buck deer to cut their antlers. The purpose of this action is said to be the saving of the healthier and more mature bucks for breeding stock.

Sincerely,
A Group of GAME NEWS Readers
Finleyville, Pa.

The Game Commission has never live-trapped deer for the purpose of removing antlers or in any other way changing the physical characteristics of these animals. From time to time, some animals have been live-trapped for distribution or for research purposes but the common belief that bucks are saved in this manner to insure breeding stock is without foundation.—Editor

Westmoreland County

"Mother of Pennsylvania's Western Counties"

(Third In A Series)

Note: This center sheet can be removed, if desired, without damaging the magazine.

WESTMORELAND, the pioneer county west of the Alleghenies, is known as the mother county of the western counties of Pennsylvania. As the last provincial county organized in Pennsylvania (1773), with territory taken from Bedford County, it embraced practically all the provinces lying beyond Laurel Ridge, except disputed Indian lands to the northwest. Title to these was obtained in 1784 and the following year some of the purchase was formally transferred to Westmoreland County. Sixteen counties have been taken from its territory, five directly and eleven indirectly, but it is still one of the largest counties in the State.

Land Area

One thousand twenty-eight square miles of which 302,710 acres are in forest lands and 381,844 acres are devoted to agriculture. Publicly owned land includes 7,700 acres of State Game Lands and 6,416 acres of State Forest Land.

Transportation

There are 2,981 miles of public roads including 1,228 in State Highways and 1,753 in County, Township and Municipal roads. Railroad transportation furnished by Pennsylvania, Baltimore & Ohio, and Ligonier Valley lines. Lincoln Highway (U. S. 30), William Penn Highway (U. S. 22), and other important routes traverse the county. The western terminus of the Pennsylvania Turnpike is located at Irwin.

Topography

The eastern highlands and western tablelands divide the county into two physical divisions with a gentle slope to the northwest. It is drained by the Monongahela and Allegheny River systems.

Game Protectors

Headquarters for the Southwest Wildlife Conservation Division is located at 331 E. Main St., Ligonier.

LeRoy L. Logan, Box 72, Manor, has jurisdiction over Allegheny, Lower and Upper Burrell, Washington, Bell, Franklin, Loyalhanna, Salem and Penn townships.

L. D. Mostoller, new Florence, has jurisdiction over Derry, St. Clair, Fairfield, and Ligonier townships.

Carl E. Jarrett, Box 111, New Stanton has jurisdiction over North, South and East Huntingdon, Hempfield, Sewickle and Rostraver townships.

William G. Matthews, Box 33, Rector has jurisdiction over Unity, Mount Pleasant, Donegal and Cook townships.

Fish Warden

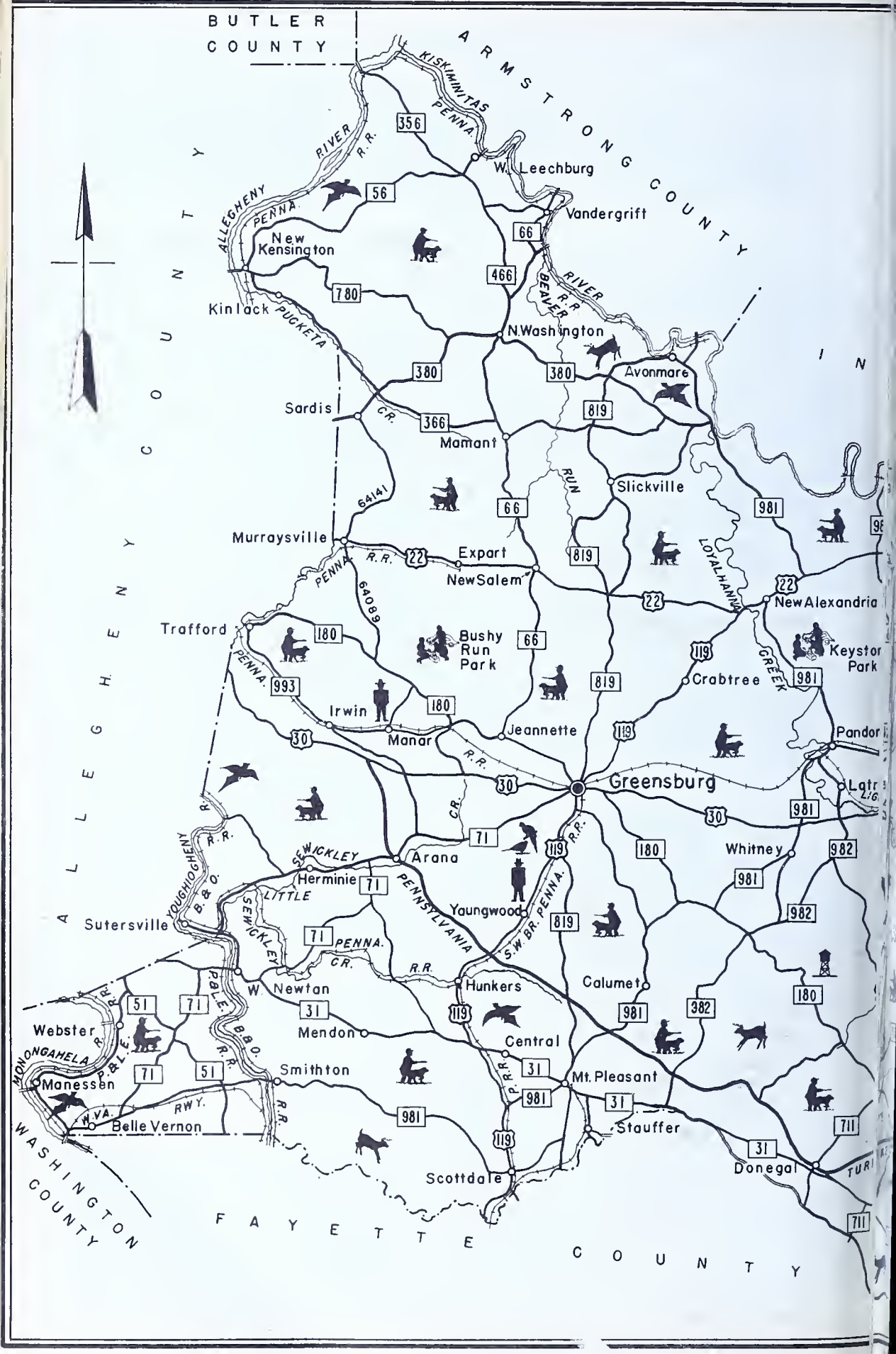
Sam F. Henderson, R. D. No. 2, Greensburg.

District Foresters

V. M. Bearer, 335 W. Main Street, Ligonier.

Historic

Westmoreland holds a unique place in Pennsylvania history for the part it played as a frontier county. It was the territory in dispute with Virginia and through it was run the Mason and Dixon line. In the course of the


BUTLER COUNTY
ARMSTRONG COUNTY
ALLEGHENY COUNTY
WASHINGTON COUNTY
FAYETTE COUNTY
KISKIMINITAS RIVER
PENNA. R.R.
ALLEGHENY RIVER
PENNA. R.R.
BEAVER RIVER
R.R.
PUCKETA CR.
LOYALHANNA RUN
GREEN
PENNA. R.R.
PENNA. R.R.
YOUGHIOGHENY R.
B. & O. R.R.
SEWICKLEY CR.
LITTLE SEWICKLEY CR.
PENNA. R.R.
PENNSYLVANIA R.R.
S.W. BR. PENNA. R.R.
P.R.R.
P.R.R.
P.&L.E. R.R.
B.&O. R.R.
MONONGAHELA R.
P.&L.E. R.R.
R.R.
W.VA. RWY.
W. Leechburg
Vandergrift
New Kensington
Kinlock
N. Washington
Avonmare
Sardis
Mamant
Slickville
Murraysville
Export
New Salem
New Alexandria
Trafford
Bushy Run Park
Keystone Park
Crabtree
Irwin
Manor
Jeannette
Pandora
Greensburg
Latrobe
Whitney
Arana
Herminie
Youngwood
Sutersville
W. Newton
Hunkers
Calumet
Webster
Mendon
Central
Manessen
Smithton
Mt. Pleasant
Belle Vernon
Stauffer
Scottdale
Donegal
356
56
66
780
466
380
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···KEY···

- County Seat.
- State Forest Fire Observation Tower.
- Game Protector's Headquarters.
- Game Propagation Area.
- Bear Hunting.
- Deer Hunting.
- Farm-Game Project. (Open to hunting)
- Wild Turkey Hunting.
- Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream.
- State Forest Land.
- State Game Land.
- 505 — Primary State Game Refuge on State Forest Land.
- State Park.
- 711 — Pennsylvania Route Number.
- 30 — U. S. Highway Route Number.
- 64067 — Legislative Route Number.
- Township Route.
- Southwest Division Headquarters.

A N A C O U N T Y

nore

Bairdstown

keville

CONEMAUGH RIVER

Seward

56

Bolivar

R.R.

680

PENNA.

711

New Florence

259

TUBMILL CR.

64067

NO. 42

Derry

259

711

64065

Wilpen

R.R.

271

CAMBRIA CO.

VALLEY

271

Waterford

Ligonier

711

NO. 42

Laughlintown

30

Rector

Linn Run Park

NO. 505

SOMERSET COUNTY

PENNSYLVANIA
GAME COMMISSION

WESTMORELAND COUNTY

PENNSYLVANIA

0 1 2 3
Scale in miles

L.A.M

Revolutionary War, Westmoreland sent many of her men on Lochry's expedition and Crawford's expedition against the Ohio Indians. The last hostile act of the war was the burning of her county seat, Hannastown. As a result a new county seat was laid out on what was known then as the Pennsylvania State Road and named for General Nathaniel Greene. The Whiskey Insurrection was settled at an old inn in Greensburg. Saint Vincent College at Latrobe, founded in 1846, is the pioneer Benedictine institution in the United States.

Industry

Much of the development of County has been based on presence of extensive beds of bituminous coal of high grade. Natural gas pools have been developed in western part of county. Principal industrial products include fabricated aluminum, iron and steel sheets, tin and tin plate, hoops, bands and cotton ties, aluminum cooking utensils, electrical machinery and supplies, plumbers' supplies, steam fittings, window glass, beer, glass tableware, rubber tires, and wire products.

Agriculture

County has 5,254 farms, the fourth ranking county in the State from that standpoint. Principal agricultural products include oats, grapes, honey, swine, grains, cherries and plums.

Recreation—Hunting

County offers a wide diversity of hunting. There is excellent small game hunting and the Allegheny mountains which fringes the eastern border are developing into good wild turkey range. County also produces enough deer to attract many big game hunters. One tract of State Game Lands—Number 42—is located near New Florence.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location, and length of stocked waters) include: Indian Creek, Brown Trout, Jones Mills, 2 mi.; Jacob's Creek, Brown & Rainbow Trout, Laurelville, 8 mi.; Linn Run, Brown & Rainbow Trout, Rector, 3 mi.; Little Pucketa Creek, Brook Trout, New Kensington, 4 mi.; Loyalhanna Creek, Brown Trout, Ligonier, 6 mi.; Mill Creek, Brook Trout, Waterford, 2 mi.; Roaring Run, Brook Trout, Jones Mills, 3 mi.; Shannon Run, Brook Trout, New Florence, 3 mi.; Tub Mill Run, Brown & Rainbow Trout, New Florence, 4 mi.; Bridgeport Dam, Black Bass, Mt. Pleasant, 95 Acres; Keystone Coal and Coke Company Reservoir, Black Bass, New Alexandria, 57 Acres; Beaver Run, Brook Trout, Noxen 3 mi.; Bowmans Creek, Brown & Rainbow Trout, Noxen, 8 mi.; Mehoopany Creek & Branches, Forkston, Brown, Brook & Rainbow Trout, 12 mi.; Meshoppen Creek, W. Br., Brook Trout, Meshoppen, 3 mi.; Riley Creek, Brook Trout, Auburn Centre, 1 mi.; Carey Lake, Black Bass, Tunkhannock, 200 Acres; Chamberlin Pond, Black Bass, Jenningsville, 47 Acres; Oxbow Lake, Black Bass, Tunkhannock, 60 Acres; Susquehanna River, N. Br., Black Bass, Meshoppen, 46 mi.; Tunkhannock Creek, Black Bass, Tunkhannock, 13 mi.; Winola Lake, Black Bass, Lake Winola, 198 Acres.

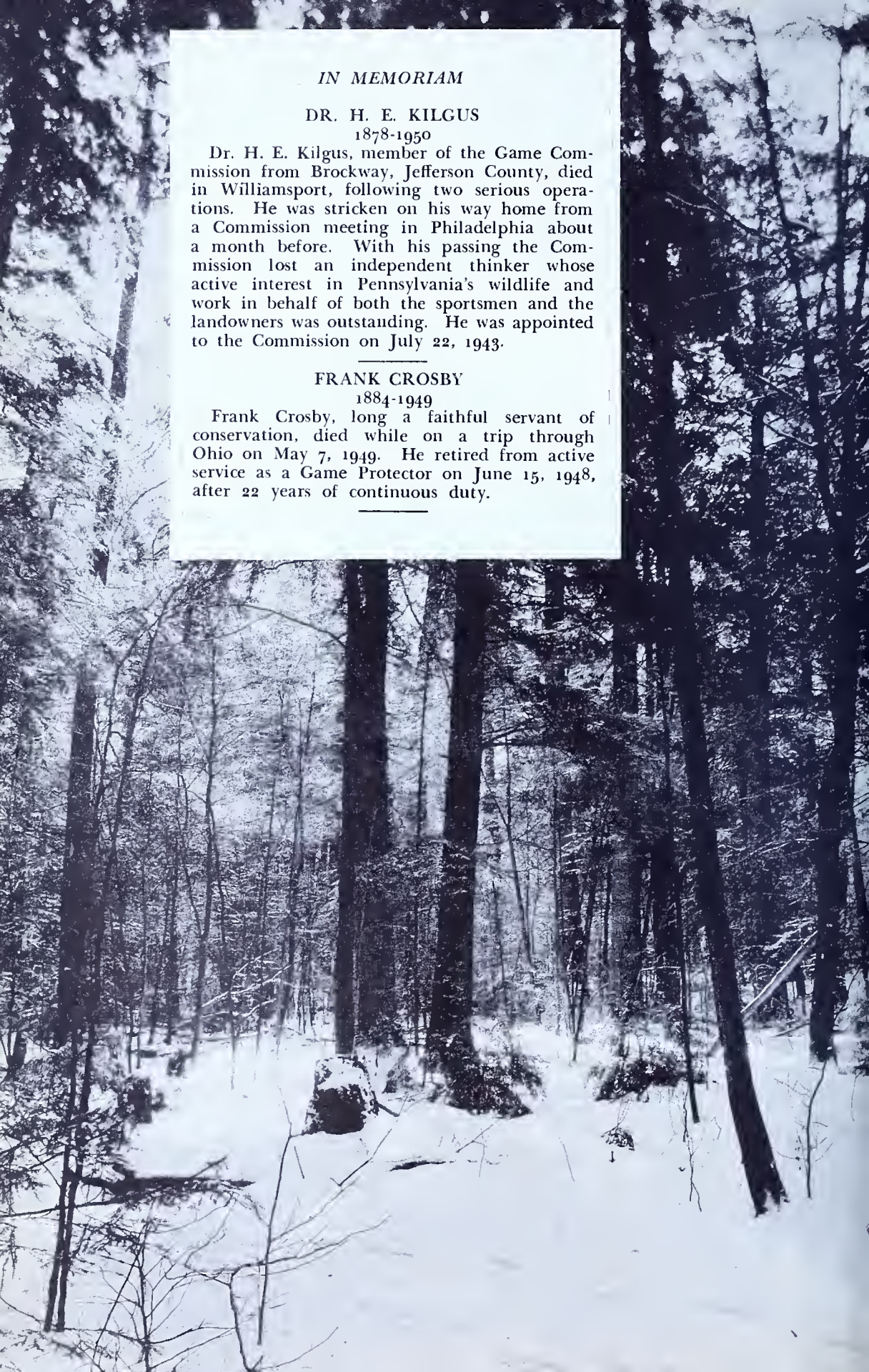
State Recreation Areas

Keystone State Park, near Latrobe on Route 981, is still under development but when completed, will offer excellent opportunities for bathing, boating and picnicking. Linn Run State Forest Picnic Area, located near Rector, offers cabins, fishing, and picnicking. Bushy Run Battlefield, near Harrison City, is interesting from a historical standpoint and offers picnic facilities.

Biennial Report 1949 1950



Pennsylvania Game Commission



IN MEMORIAM

DR. H. E. KILGUS
1878-1950

Dr. H. E. Kilgus, member of the Game Commission from Brockway, Jefferson County, died in Williamsport, following two serious operations. He was stricken on his way home from a Commission meeting in Philadelphia about a month before. With his passing the Commission lost an independent thinker whose active interest in Pennsylvania's wildlife and work in behalf of both the sportsmen and the landowners was outstanding. He was appointed to the Commission on July 22, 1943.

FRANK CROSBY
1884-1949

Frank Crosby, long a faithful servant of conservation, died while on a trip through Ohio on May 7, 1949. He retired from active service as a Game Protector on June 15, 1948, after 22 years of continuous duty.

Letter of Transmittal

Harrisburg, Pa.
June 1, 1950

To His Excellency James H. Duff
Governor of Pennsylvania
Harrisburg, Pennsylvania

Sir:

We transmit herewith a biennial report of the work and accomplishments of the Pennsylvania Game Commission for the two years ending May 31, 1950.

A reorganization enabled us to streamline and improve our field and office operations and to provide better administration; an increase in the resident hunter's license fee from $2 to $3.15 and the non-resident from $15 to $20 permitted us to expand our activities, principally the wildlife food and cover program. Through your personal interest and that of the General Assembly and the sportsmen, helpful legislation was secured. With the aid of many landowners it was possible to expand cooperative programs and to develop new projects with lasting benefits.

We have progressed and accomplished much, therefore we are publishing this report as a part of the November issue of the Pennsylvania Game News, so that its more than 60,000 readers will be informed of what is being done for wildlife in the Keystone State.

Respectfully submitted,

Ross L. Leffler, *President*
R. Lamberton, *Vice-President*
Nicholas Biddle
G. I. Phillips
Harold Moltz
Joseph Willson
John C. Herman
B. K. Williams

Attest:
Thos. D. Frye
Executive Director



Seth Gordon



Thos. D. Frye

Highlights

ADMINISTRATION

On August 31, 1948, Seth Gordon, Executive Director, who for 25 years had efficiently and courageously administered the program of the Commission, left the service to become Conservation Advisor for the state of California.

Thos. D. Frye, a man with more than 35 years' state administrative experience, with all the know-how of a hunter, angler, and outdoorsman having participated in those sports from boyhood, was appointed in his place. An expert in budgetary, personnel and organization matters, the new director immediately streamlined the field and office administrations to keep pace with present-day conditions.

The one-time Bureau of Field Management was renamed the Bureau of Wildlife Conservation to be more in keeping with its multiple functions. Under it was created a Land Utilization Division with jurisdiction over three newly established sections, namely: Food and Cover; Farm-Game Cooperative; and Land Title and Records. Two other separate divisions were set up in the Bureau of Wildlife Conservation, namely: Wildlife Protection, which includes a Bounty Claim Section; and Game Propagation. The seven Field Divisions operating under the Wildlife Conservation Bureau were renamed Wildlife Conservation Divisions. Later, effective June 1, 1950, these seven were rearranged into six and renamed by geographic position including the Northwest, Southwest, Northcentral, Southcentral, Northeast and Southeast Divisions.

At the same time the Commission appointed a Waterfowl Coordinator whose duties will be devoted to selecting, improving and developing suitable habitat throughout the Commonwealth to attract waterfowl and increase present populations, thereby furnishing better sport for the migratory bird hunters.

The position of Assistant to the Executive Director was established in order to relieve the Director of multitudinous correspondence and other details and allow him more time for planning and administration.

A Director of Public Relations was appointed to keep the public informed on the Commission's activities and to accomplish a greater distribution of beneficial conservation education materials prepared by a newly established Division of Conservation Education, thus creating a sales as well as a manufacturing agency working harmoniously and closely together.

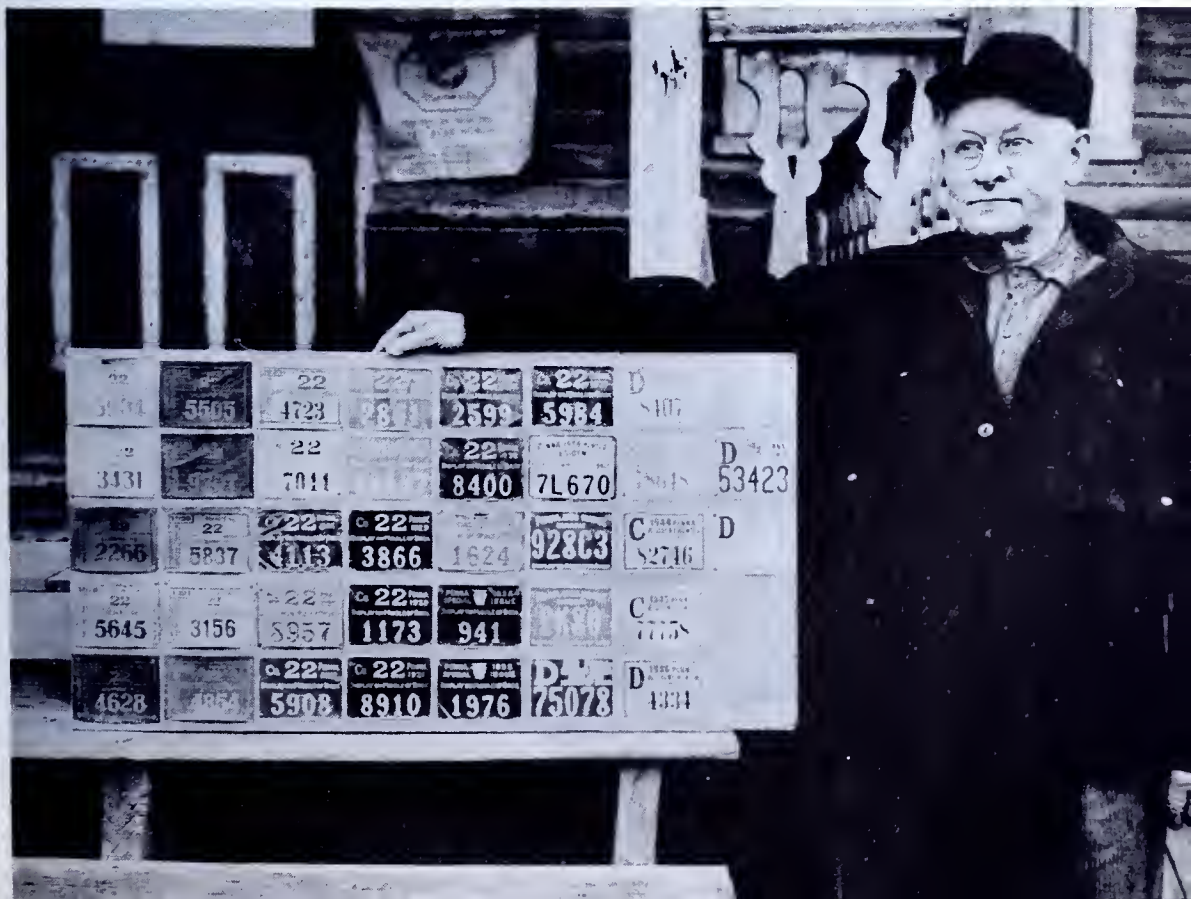
The Administration Bureau was realigned to include jurisdiction over the Ross Leffler School of Conservation, thereby making it responsible for four major divisions, the other three being Accounting and Service, with jurisdiction over two sections—one on Accounting and one on Service; Conservation Education, with jurisdiction over a Publications Section and a Conservation Relations Section; and Wildlife Research.

REVENUE

Total receipts amounted to $6,683,771.89 and expenditures $6,687,360.53. More than $1,700,000 was on hand at the close of the biennium on May 31, 1950, excluding $93,000 in War Bonds which can be converted into cash when necessary.

Of noteworthy interest also is the fact that capital investments now amount to $5,103,545.69 aggregating five principal classifications, namely state game lands, buildings, game farms, the training school and automotive and other equipment.

Few Pennsylvanians have hunted in every game season and fewer still can prove it by exhibiting their license tags since they were first issued in 1913. The Game Commission derives its major source of income from the sale of hunting licenses.



BOUNTY PAYMENT SYSTEM CHANGED

The system of paying bounties by Commission check, which had been in use since June 1, 1919, a period of 30 years, was discontinued effective June 1, 1949, in favor of a plan by which all bounty claims are audited by the Auditor General before payment is made by the State Treasurer.

This change in system results in *all disbursements* of the Commission being audited by the State's fiscal officers before checks are issued in payment. It also eliminates the necessity for the Commission operating its own bank account.

Much of the success of the new system is due to the splendid cooperation extended by the fiscal officers in auditing and paying the claims promptly.

ACCIDENTS LOWER

The campaigns waged to reduce the number of hunting accidents have evidently been effective through the years. For example, the hunting license sale during the past two years averaged 866,360 and there was one fatal accident for every 36,098 hunters. This figure compares very favorably with one fatal mishap for every 15,579 hunters based on an average of 623,176 hunters for the past 26 years.

GAME KILL

Nearly 6,560,000 pieces of game weighing more than 30,780,000 pounds were taken during the two-year period, in both instances more than during the previous period.

More than 40,003 weasels were probated for bounty during these two years.





In May, 1949 the deed to 14,000 acres of the Tobyhanna Military Reservation in Monroe County was transferred from the War Assets Administration to the Game Commission. Here W. Gard. Conklin, former Director of the Bureau of Administration, is shown receiving the deed from Francis S. Trout, WAA regional representative.

LAND ACQUISITION

Nearly 23,000 acres of Game Lands were acquired by purchase and transfer including a gift from the Federal Government of more than 14,000 acres of the famous old Tobyhanna Military Reservation in Monroe County. This acreage, plus that already owned by the Commission, brought the total of Commission-owned public shooting grounds and refuges to 880,000 acres.

GAME MANAGEMENT

One of the biggest cooperative endeavors, and a real milestone in the cooperative management of our big game and small forest game, was the agreement made with the Allegheny National Forest officials in July 1948. Actually it was the equivalent of adding half a million acres to State Game Lands—an intensive area which will be developed, improved, and always open for public hunting.

A new plan was evolved and put into operation that has excellent possibilities for increasing the supply of native cottontail rabbits. Under it 85 rabbit propagating areas comprising more than 11,000 acres were established on the farms of cooperating landowners in eight counties. These farms are closed to public hunting, and may not exceed in each county the number of townships in the county. The surplus animals produced are live-trapped and used to restock depleted coverts within the local areas as nearly as practicable.

COOPERATIVE FARM-GAME PROGRAM

The increasingly popular Farm-Game Program, begun in 1936 to provide more public shooting grounds in thickly populated agricultural sections, was stepped up. As a result 56 new projects were established, bringing the total to 158 comprising 7,653 farms totaling 767,729 acres.

Extensive habitat improvement was made on these areas with the assistance and advice of the Commission, and sportsmen and farmers particularly are urged to read the paragraph on wildlife management and soil conservation practices on pages 101 and 102.

TIMBER SALES

In many instances it was possible to cash in on the management program by selling forest products, the removal of which improved environment for wildlife. Thus dual objectives were accomplished on more than 8,500 acres, and the Commission netted a cash return of $136,384.62 for the sale of 5,980 tons of mine props, 5,735 cords of paperwood and chemical wood, 279,130 posts and props, 1,629 cords of firewood and 390 pounds of ground pine.

FOOD AND COVER

The amount of food and cover work accomplished was so enormous and so important that it behooves every reader to carefully peruse the several charted reports of these activities which can be found on pages 103-106. A bird's eye view indicates that 2,168,000 evergreen and deciduous tree, shrub and vine seedlings were planted; 245,000 multiflora rose seedlings were grown; and 31,700 mature plants or cuttings from game food producing shrubs or vines were transplanted to permanent locations, including 1,000 highbush huckleberry plants.

In an effort to further reduce the tremendous mortality in pheasants and quail during the nesting season caused by mowing alfalfa and clover, the Commission agreed to offer each farmer or landowner $1.00 for each inhabited nest located and mowed around to provide an "island" or sanctuary.

The Day-Old Pheasant Chick Program was doubled, more than 220,000 of these youngsters having been shipped to interested sportsmen and farm-game cooperators for rearing. Of this number approximately 70% were raised to 12 weeks of age or older and released in open hunting territory. Ringneck pheasant releases were doubled, more than 255,000 having been stocked in depleted coverts during the past two years as compared with 133,000 released during the previous biennium.

WILDLIFE PROTECTION

Successful prosecutions for Game Law violations totaled 10,932, an increase of 2,651 over the previous two-year period. Every effort was made to protect the law-abiding hunter from the malicious practices of the vandal. As a result, 1,497 hunters had their licenses revoked for one or more years.

Every effort was also exerted to make the fields and woods safe against careless and indifferent gunners. As a result 276 persons who were found guilty of vandalism, or who caused an injury by gunfire to themselves or another through carelessness or negligence, also had their hunting privileges denied for periods of from one to ten years.

Both deer and bears, the former because of their extreme abundance in certain localities, continue to be a problem in agricultural areas. As a result of their depredations 4,870 deer were killed to protect property, and $3,139.47 was paid to landowners for livestock and bees killed or damaged by bears.



Hal Harrison Photo.

Pennsylvania is rich in fur resources. Trappers like Ted Shelton, above, harvest many beavers each year; more than 4,000 were trapped during this biennium.

FUR-BEARERS VALUABLE

That Pennsylvania can definitely take pride in its fur resources is borne out by the amount of money which professional and part-time trappers, many of them farmer lads, received for their pelts during the past two years. More than 1,097,000 pelts were taken for which fur dealers paid over $2,305,000.

BOUNTIES

An all-out effort was made by the Commission and the sportsmen to control predators which were reduced numerically by 40,254 weasels, 67 goshawks, 3,778 great-horned owls, 33,626 gray foxes and 18,875 red foxes, for which bounties aggregating $267,096 were paid.

TRAINING

Two student classes of the Ross Leffler School of Conservation were enrolled, the Fifth on June 1, 1948, which graduated 25 resident students on May 27, 1949; and the Sixth Student Class which enrolled 25 men on May 1, 1950. Nowhere in the country are potential conservation officers given such intensive training for so long a time, and the noticeable improvement in the Commission's public relations, especially during the past several years, is proof of the effectiveness of a permanent conservation school. It is hoped sometime in the near future to modernize and enlarge its inadequate facilities.

PUBLIC RELATIONS

With the inauguration of a weekly newsletter and frequent personal contact with outdoor column writers by the Public Relations Director, the Commission established closer liaison with and received more publicity through the newspapers than ever before. The newsletter now has a circulation of more than 1,200.

CONSERVATION EDUCATION

More than 960 meetings were attended, chiefly by the Conservation Education Assistants thereby reaching more than 142,000 persons through lectures, motion pictures and other visual aids. Three major exhibits displayed during full week periods at Pittsburgh, Harrisburg and Philadelphia were viewed by more than 1,625,000 persons. A large permanent exhibit was established at the Hershey Zoo in the spring of 1950. It has already been viewed by more than 350,000 people.

Three official motion pictures in color and sound were prepared and nine others were purchased from outside sources, the latter nearly all being natural history subjects especially desirable for schools.

GAME NEWS circulation was increased by 9,250 new subscriptions, bringing the total paid subscriptions to 45,058 as of May 31, 1950.

Two new bulletins and five new pamphlets were published and distributed, and text for three additional bulletins and a souvenir book on the birdlife of the Pymatuning Waterfowl Sanctuary in Crawford County was completed and will be published during the next Biennium.

In August, 1948 many outstanding conservationists, state and civic officials gathered near Glenhazel, Elk County, to pay tribute to Hon. John M. Phillips, Pittsburgh, shown here with Mrs. Phillips, the man most instrumental in the development of Pennsylvania's renouned public hunting grounds system.



RESEARCH

Extensive surveys of Pennsylvania mammals, bobwhite quail, migratory waterfowl, the predatory animals were begun and in some instances completed. As a part of the Commission's waterfowl management program more than 700 nesting boxes for wood ducks were made and distributed along desirable waterways, many of which were subsequently occupied by these beautiful, much-sought-after birds.

MEMORIALS

On Sunday, August 1, 1948, near Glenhazel, Elk County, between four and five hundred persons witnessed the dedication of a monument commemorating the first purchase of State Game Lands in Pennsylvania and heard His Excellency, Governor James H. Duff, and other outstanding conservationists and state and civic officials pay tribute to Hon. John M. Phillips, Pittsburgh, the man most instrumental in the development of Pennsylvania's renowned public hunting grounds' systems.

On June 20, 1948, Cranberry Glade Lake, a 112-acre body of water on Game Lands No. 111 in Somerset County, was formally dedicated as the 46th project in the number of lakes and ponds created or maintained by the Game Commission for recreation and waterfowl reclamation.

On April 8, 1949, J. Q. Creveling, Esquire, former member of the Commission, and one of the fathers of the Game and Fish Laws, was presented with a bronze plaque by the United Sportsmen of Pennsylvania to be erected on Game Lands No. 157 in Wyoming County near three lakes previously named in his honor.

One of the highest tributes paid to the Commission was the support of Governor Duff, the courts and many interested individuals in sustaining the action of one of its employes who was compelled to take the life of another man in the defense of his own life while enforcing the Game Law of the Commonwealth.

ENDS SERVICE

Seth Gordon, one-time assistant to Dr. Joseph Kalbfus, the first Secretary of the Game Commission, resigned voluntarily on October 16, 1948, to conduct a Fish and Game Survey for the State of California, thus ending his second tenure of office with the Commission. He began his career as understudy to Dr. Kalbfus for six years and succeeded that fine old gentleman soon after his tragic death in 1919. He continued in service until July 1926, when he left to become Conservation Director of the Izaak Walton League of America with offices in Chicago. After almost five years in that position he resigned to become President of the American Game Association in January 1931, a position he held until 1935 when the work of that organization was absorbed by the American Wildlife Institute which he helped to organize and of which he became the first Secretary. He resigned from the latter post in 1935 to return to the Game Commission as Executive Director. He became one of the country's recognized authorities in the conservation field. He was formerly President of the International Association of Game, Fish and Conservation Commissioners; was the Secretary-Treasurer of the American Fisheries Society for 10 years and later its First Vice-President, then President. In recognition of his services he was elected one of the few honorary members of the American Fisheries Society, the Wildlife Society and the Wilderness Club. He has served as Vice-President of the American Forest Association; a Director of the Na-

tional Rifle Association; a member of the former Migratory Bird Advisory Board and as Trustee of the American Wildlife Foundation.

Two other persons, long in the service of the Commission, laid aside their tools and began a well earned retirement. They are W. Gard. Conklin, former Director of the Bureau of Administration, who began his service on April 4, 1920, and retired on August 1, 1949; and John J. Slautterback, formerly an Executive Director of the Commission. Mr. Conklin negotiated for the purchase and lease of nearly all the State Game Lands and the efficiency and diplomacy with which he handled these important transactions through the years was an outstanding achievement. He had his early training in the Department of Forests and Waters after first having graduated from the Forest Academy at Mt. Alto, Pa., in 1905. He joined the service of the State Department of Forests and Waters in 1908 and served it in several capacities until he entered the employ of the Commission in 1920. Mr. Slautterback left the service in July, 1931 to oversee the management of a wildlife project on Martha's Vineyard, but was reinstated again on May 16, 1939, as a Game Land Technician, then as a Land Agent, devoting most of his efforts in the latter position toward the development of the Cooperative Farm-Game Program. He retired on superannuation July 21, 1949.

LEGISLATION

Some amendments were made to the Game Code by the General Assembly during the 1949 session, as follows:

Section 302. Increases the resident hunter's license fee from $2 to $3.15, effective September 1, 1949. It also provides for the issuance of free licenses to resident disabled war veterans who have lost one or more limbs, or the use of one or more limbs.

Section 303. Increases the nonresident hunter's license fee from $15 to $20 and establishes a new nonresident trapper's license at a fee of $25.

Section 311. Increases license issuing agents' compensation as follows: resident hunter's license from 10 cents to 15 cents; nonresident from 25 cents to 35 cents.

Section 408. Corrects an error in the law concerning the size of mesh to be used by game propagating permittees, so that the maximum mesh for woven wire fencing shall be two inches.

Section 409. Changes the method of tagging propagated game or eggs by eliminating the triplicate tag and replacing it with a single tag to be supplied by the Game Commission at cost. The single tag shall be attached to each *dead* bird or animal, or to *each container* of *live* birds or animals removed for restocking purposes, for use on regulated shooting grounds, or at field trials. A similar tag must also be attached to each *container* of eggs. All other *live* birds or animals removed must be *individually* tagged. Complete records must be kept by permittees for two years.

Section 410, 411 and 412. Adds bobwhite quail to the game birds which may be killed on regulated shooting grounds, and provides for the tagging thereof before removal from such grounds.

Section 417. Excludes from the definition "Roadside Menagerie," and removes the necessity for a permit, for an animal exhibition at a county fair; also, with Game Commission approval, removes permit requirement for any such exhibition when sponsored by a sportsmen's organization.

Section 419. Provides a penalty of $25 for failure to maintain proper records of propagation transactions, and $25 for failure of special permittees to submit annual reports.

Section 501 (d). Changes antlerless deer abrogation proceedings by requiring the signatures of residents of a county who held Pennsylvania resident hunting licenses the previous year equal to 51% of the total number of licenses issued to residents of the county during such previous year. Farmers and orchardists residing in the county, not having held a license the previous year, are also permitted to sign the petitions, to meet the required 51%.

Section 506, 731, 943 and 1004. Increases the bear penalty from $100 to $200.

Section 720. Extends the period for holding field trials, under permit, for dogs working on wild game, to include the full month of April instead of the first 15 days.

Section 938. Increases from four to six the number of permits for Special Dog Training Areas that may be issued in any one county.

Section 1202. Requires the Game Commission to pay counties $1 per day for maintenance of prisoners who have been imprisoned under the provisions of the Game Law.

Section 1203. Clarifies legal procedure on field acknowledgment of guilt by eliminating offenses deignated as misdemeanors or felonies from those which may be settled on field receipt.

Section 1206. Requires the Commission to pay all costs when no birds, animals, firearms, or dogs are found on a search warrant.

Section 1210. Clarifies legal procedure by designating the court of common pleas for certiorari proceedings, and the court of quarter sessions for appeals in Game Law prosecutions.

Section 1401 (v). Eliminates the earmarking of 75 cents from each resident hunter's license, for the purchase, maintenance and development of state game lands and refuges.

Section 1401 (z). Earmarks the sum of $1.25 from each resident hunter's license fee for: Improving natural food and cover for wildlife; the purchase, planting, etc., of game foods for feeding wildlife; the purchase, trapping and distribution of game; and the protection of property of farm-game cooperators.

Act No. 577, approved May 27, 1949, which became effective September 1, that year, increased fixed charges from 5 cents to 7½ cents per acre, annually, on lands to which title has been taken in the name of the Commonwealth for use of the Commission, as follows:

From 1 cent to 2½ cents per acre to the county; 2 to 2½ cents per acre to the respective school districts; and from 2 to 2½ per acre for township roads. This act does not amend the Game Law but affects the Forest Reserve Law of May 17, 1929, P. L. 1798.



BUREAU OF ADMINISTRATION
Accounting and Budget

HUNTING LICENSES

In Pennsylvania the wildlife conservation program is supported mainly by the sportsmen through their hunter's license fees. Additional revenue is forthcoming from penalties, special permits and timber sales, as well as federal aid.

It is not unusual for license sales to fluctuate from year to year, and this is to be expected. On the whole, however, the sales have been adequate to support a progressively improved program. Prior to June 1, 1948, the record resident license year was 1946, when 832,846 were issued, and the nonresident, in 1947, when a new high of 28,012 was established. A new record for both residents and nonresidents was established in 1948, there being 854,840 resident and 28,085 nonresident licenses issued.

The State Department of Revenue handles all matters relating to the issuance of hunting licenses, including settlement of accounts with agents and the transmission of monies arising from this source to the State Treasury for deposit in the Game Fund. The number of licenses issued during the past five years is given below:

	Resident		*Nonresident*		
Year	*Fee*	*Number*	*Fee*	*Number*	*Total*
1945	$2.00	696,394*	$15.00	17,227	713,621
1946	$2.00	832,846*	$15.00	23,174	856,020
1947	$2.00	822,423*	$15.00	28,012	850,435
1948	$2.00	854,840*	$15.00	28,085	882,925
1949	$3.15	815,915*	$20.00	24,032	839,947

* Includes free licenses issued to members of the Armed Forces, and Disabled Veterans: 1945, 32,373; 1946, 7,418; 1947, 2,876; 1948, 3,770; 1949, Armed Forces, 5,581 and ** Disabled Veterans, 275.

** Issuance of free licenses to Disabled Veterans authorized by the 1949 General Assembly.

HUNTING ACCIDENTS

The Commission continued its educational programs to encourage safe gun handling. The press, the radio, talks by Commission personnel and sportsmen, motion pictures, posters and a digest of hunting and trapping regulations issued with every hunting license were utilized to emphasize this serious matter. They all helped but mishaps did occur and many referee hearings were held by representatives of the Commission in connection with them, resulting in license revocations. Some of the worst offenders appeared for trial before judges of county courts where heavy penalties were imposed in addition to license suspensions. During the two-year period there were 48 fatal and 871 non-fatal accidents. The 26-year (1924-1949) average for fatal accidents was 40 annually, 43.6% of them self-inflicted.

The hunting license sale during the past two years averaged 857,925 which indicates that there was one fatal accident for every 35,747 hunters. This compares favorably with one fatal accident for every 15,579 hunters based on an average of 623,176 licensed hunters during the past 26 years. While the analysis proves that considerable headway has been made, there are still too many accidents. The hunters who persistently disregard all reasonable safety meas-

ures must be apprehended and punished to the full extent of the law, or even eliminated from the field. To accomplish this worthy objective the Commission must have the support of the great number of hunters who believe in and practice the cardinal rules of safety at all times.

LIST OF HUNTING ACCIDENTS DURING THE PAST NINE YEARS

	1941	1942	1943	1944	1945	1946	1947	1948	1949
Self-inflicted									
Fatal	14	8	7	10	14	15	8	6	10
Non-Fatal	57	23	38	36	36	66	66	67	71
Inflicted by Others									
Fatal	12	18	20	13	23	14	21	17	15
Non-Fatal	313	304	153	173	196	271	360	351	382
Totals	396	353	218	232	269	366	455	441	478

BIG GAME ACCIDENTS

The table below summarizes the hunting accidents which occurred while hunting big game.

	Fatal			*Non-Fatal*		
Year	*Deer*	*Bears*	*Total*	*Deer*	*Bears*	*Total*
1948	9	0	9	55	4	59
1949	5	1	6	57	1	58

The wearing of plenty of bright red while hunting is one of the safety measures which should never be overlooked. It is good insurance and pays big dividends.

More than 164,000 legal deer were harvested during the biennium. Scenes such as this were common throughout Pennsylvania's deer hunting territory when hundreds of thousands of our citizens went afield to enjoy one of the most thrilling outdoor sports.



GAME KILL

The Commission's entire program is geared for the production and protection of enough game so that the increasing number of hunters may enjoy many happy days afield, and a partially filled game bag. Seed stock left from the previous hunting season is carefully nourished by providing natural and artificial food and cover, and by controlling the enemies of wildlife. The amount of seed stock surviving the winter and spring breeding conditions, etc., are the primary factors which the Commission considers when fixing open seasons and bag limits. Changes made from year to year are considered necessary in the overall management of the species affected.

The kill of deer, rabbits, hares, turkeys, ruffed grouse, ringnecks, woodcocks, rails, gallinules, coots, wild waterfowl, woodchucks and doves showed an increase, while there was a decrease in the kill of bears, Hungarian partridges, squirrels, raccoons and quail. The figures on the big game kill for the 1948 and 1949 seasons are based on individual Game-Kill Reports, while the small game kill was based on field officers' estimates. During this two-year period 6,559,760 pieces of game were killed weighing 30,782,129 pounds as compared to 6,199,247 pieces of game killed, weighing 26,424,353, during the previous two-year period.

Species	*Average Weight of Each*	*Season of 1948 (Final Report)* Number	Weight	*Season of 1949 (Final Report)* Number	Weight
Deer, Legal Antlered ..	115 Lbs.	33,608	3,864,920 Lbs.	46,602	5,359,230 Lbs.
Deer, Legal Antlerless ..	80 "	.....	..... "	84,121	6,729,680 "
Total Deer and Weight		33,608	3,864,920 "	130,723	12,088,910 "
Bears	175 "	388	67,900 "	411	71,925 "
Rabbits	1¾ "	1,791,550	3,135,212 "	1,860,436	3,255,763 "
Hares (Snowshoes)	3 "	5,616	16,848 "	5,948	17,844 "
Hungarian Partridges ...	12 Oz.	43	32 "	92	69 "
Squirrels	1 Lb.	564,873	564,873 "	578,267	578,267 "
Raccoons	10 Lbs.	98,242	982,420 "	81,007	810,070 "
Wild Turkeys	10 "	4,318	43,180 "	6,885	68,850 "
Ruffed Grouse	1⅓ "	24,297	32,396 "	36,304	48,405 "
Ringneck Pheasants	2¾ "	277,254	762,448 "	343,767	945,359 "
Quail	6 Oz.	5,780	2,168 "	5,181	1,943 "
Woodcocks	6 "	26,210	9,829 "	26,748	10,030 "
Rails, Gallinules & Coots	4 "	3,960	990 "	6,041	1,510 "
Grackles (Blackbirds) ..	2½ "	(Unprotected-No data)		(Unprotected-No Data)	
Wild Waterfowl	2½ Lbs.	40,352	100,880 "	59,103	147,757 "
Woodchucks	6 "	259,534	1,557,204 "	265,135	1,590,810 "
Doves	3 Oz.	6,847	1,284 "	10,840	2,033 "
Total Number and Weight		3,142,872	11,142,584 "	3,416,888	19,639,545 "

ANTLERLESS DEER SEASON

The removal of almost 64,000 antlerless deer during the one-day season in 1947 helped to relieve conditions somewhat but not enough. However, it was believed unwise to repeat the attempt until a statewide antlerless season could be effected. Under the circumstances therefore, no antlerless season was declared in any part of the state in 1948.

By 1949 the situation again was becoming acute and a one-day antlerless season was declared on December 10, following the close of the buck season on December 9. No special permits were required and nonresident licensed hunters were entitled by law to participate.



Continuous and exhaustive field investigations, research and observations have proved that antlerless deer seasons are necessary if Pennsylvania's deer herd is to be maintained in a healthy, economically valuable, and biologically sound condition.

There were the usual remonstrances, and legal abrogation petitions were filed by residents of Bedford, Clearfield, Forest, Franklin, Fulton, Greene and Perry Counties who held hunting licenses during 1948, or who otherwise were qualified, which automatically closed these counties. A number of petitions from other counties were filed, but they did not meet the requirements of law. The season applied to 60 of the 67 counties, and 84,121 antlerless deer were killed.

Continuous and exhaustive field investigations, research and observations have proven that antlerless seasons are necessary to: (1) correct an unbalanced sex ratio; (2) relieve widespread complaints of damage to farm, truck and orchard crops throughout the Commonwealth and to reduce the deer population so as to assure sufficient natural food to sustain it in good healthy condition without encroachment upon said crops; (3) permit the efforts toward reforestation and the planting of game food producing trees, shrubs and vines to reach food-producing age before being destroyed by the deer; and (4) to aid important forest species of small game by relieving the drain on essential food and cover supplies. The sooner all hunters realize this problem the sooner it will be solved and better deer hunting will prevail.

FINANCIAL OPERATIONS

The financial status of the period covered by this report is set forth on charts and detailed tabular statements which appear in the appendix and in summarized form as follows:

During the first year the sum of $2,623,036.58 was credited to the Game Fund; the second year $3,960,735.31; or a total of $6,583,771.89 for the biennium.

Expenditures for the first year of the biennium were $3,035,537.01, and the second year $3,651,823.52 or a total of $6,687,360.53 for the biennium.

The comparative figures below will be of interest:

Biennium	*Revenue*	*Expenditures*
1936-38	$2,591,452.23	$2,789,806.17
1938-40	3,016,911.71	2,945,213.83
1940-42	3,309,727.38	2,918,605.44
1942-44	3,068,006.83	2,427,912.20
1944-46	3,294,685.42	2,871,370.06
1946-48	4,726,918.63	5,326,214.28
1948-50	6,583,771.89	6,687,360.53

EARMARKED FUND

The amendment to the Game Law by the 1949 General Assembly earmarks the use of $1.25 from each Resident Hunter's License fee for:

(1) Improving and maintaining natural wildlife habitat that is available for public hunting.

(2) The purchase, maintenance, operation, rental and storage of equipment used in this work.

(3) The purchase, distribution, planting, cultivating and harvesting of game foods.

(4) The purchase, trapping and distribution of all species of game, as well as providing protection to the property of Farm-Game Cooperators.

Long in advance of the legislative mandate definite plans had been made for expanding the food and cover program, but could not be developed to the extent desired because of the lack of funds. The table below shows the amount expended for this program in relation to the minimum amount required by law:

Amount Spent During Year Which Ended May 31, 1950	*Minimum Amount Required By Law*	*Amount Spent in Excess of that Required By Law*
$1,211,687.72	$1,012,573.75*	$199,113.97

* This amount is based on the sale of 810,059 licenses.

STATUS OF GAME FUND

The condition of the Game Fund as of May 31, 1950 (the close of the two-year period covered by this report) was very satisfactory. The cash balance was $1,722,982.94 excluding a $93,000 War Bond investment which can be converted into cash when necessary.

The expenditures during this biennium, as during the previous one, exceeded the revenue. This was in accordance with the Commission's plan to spend the accumulated "Wartime Reserve" of almost $1,500,000 over a three-year period. The last $500,000 was spent during the first year of this biennium.

The May 31, 1950 cash balance was in excess of the absolutely essential minimum of $800,000 needed in addition to the current revenue from June 1 through September 30, each year, to pay all bills when due. These are lean

months for receipts, but the work must go on and the bills must be paid. There are two reasons for the May 31, 1950 cash balance exceeding $800,000, viz:

(1) The actual collections during the last year of the biennium exceeded the estimate by $500,610.31. Of this amount $291,693.23, or about 60%, represents Federal Funds that were received earlier than had been estimated.

(2) The new program developd to absorb the increased hunting license fees required the building up of an organization to utilize wisely and effectively the additional funds. This required careful planning and time. Approximately $400,000 of budgeted funds for 1948-49 that was not actually expended was included with the $500,000 additional receipts in the following year's budget to finance the expanded program.

Special Note—There no longer exists any difference between the accounts of the Commission and the Treasury Department. By developing a new system, with the approval of the Budget Secretary, which became effective May 31, 1949 all bills are now paid by the Treasury Department at the end of every fiscal year, i.e., May 31. This system was designed so there should be no misunderstanding about finances in the future.

CAPITAL INVESTMENTS

To produce a shootable supply of game and provide natural habitat and food for it requires land, game farms, buildings, motorized equipment, etc. Such "Capital" expenditures make the wheels go round. The table below gives the actual consideration paid for land together with the estimated value of other capital items as of May 31, 1950.

State Game Lands (1920-1950)	$4,193,937.42*
Buildings on State Game Lands	132,245.00#
Game Propagating Farms (including land, buildings and equipment)	512,113.25#
Conservation School (including buildings and equipment)	32,959.45#
Equipment (including automobiles, trucks, tractors, graders, etc.)	232,290.57#
Total	$5,103,545.69

* Consideration paid for lands including title and survey costs.

\# Estimated value at May 31, 1950.

Public Relations

A number of the Commissioners, the Executive Director, Bureau Directors and certain members of the staff, attended the following conferences for the purpose of keeping up to date on *all* conservation matters. Quite frequently the Commission has contributed valuable suggestions at these conventions and just as frequently good ideas secured from other conferees have been brought home.

September 1948—Atlantic City—The International Association of Game, Fish and Forestry Commissioners.

**February 1949—Chicago*—North American Game Breeders Conference.

March 1949—Washington, D. C.—The Fourteenth North American Wildlife Conference.

June 1949—Pittsburgh—Joint Inter-state Pennsylvania-Maryland and U. S. Army Engineer Conference concerning management problems on and surrounding the Youghiogheny Flood Control Reservoir.

June 1949—Baltimore—Conservation conference held at the invitation of Maryland Conservation Administrators in which the States of Maryland, Delaware, West Virginia and Pennsylvania were represented.

September 1949—Winnepeg, Canada—The International Association of Game, Fish and Conservation Commissioners.

October 1949 Buffalo—The annual meeting of the American Ornithologists Union.

March 1950—San Francisco—The Fifteenth North American Wildlife Conference.

March 1950—Michigan—Hunt Safely Clinic.

March 1950—New York—National Sportsman's Show.

April 1950—Annapolis—Conference of the Northeastern Atlantic States' conservation officials in Maryland by invitation of U. S. Fish and Wildlife Service, discussing waterfowl regulations and other National Conservation problems.

* Monthly meetings of the Pennsylvania Game Breeders Association are also attended.



Hal Harrison Photo.

Baldpates, winging their way south in fall provide sport and recreation for many Pennsylvania waterfowl hunters.



Education, spearhead of conservation progress, has received greater emphasis during recent years. Here Commission Executive Director Tom Frye, left, and Dr. Paul Cressman of the State Department of Public Instruction are shown with two school children discussing one of the Commission's many conservation education publications.

Conservation Education

With the creation of a Conservation Education Division at the time of the reorganization, the way was paved for a closer liaison with the sportsmen, farmers, youth groups, schools and other agencies upon whom we must depend directly or indirectly for help. Eventually plans will be made to include specific conservation programs which can be executed or supported by every organization or group as their facilities, financially or physically, permit.

Specific programs were conducted with several agencies all of which were subsidized wholly or in part by the Commission. Among them were:

1. Cash awards amounting to a total of $500 ($250 annually) were made to the winners of first, second and third places in conservation essay, poster and photographic contests sponsored by the Forensic League of the University of Pittsburgh. This project is now in its third year and is very popular among the students.

2. Cash subsidies in the amount of $1,000 each were granted annually to the Academy of Sciences, Philadelphia, and the Carnegie Museum, Pittsburgh, to develop educational conservation exhibits.

3. The same amount was given to the Pennsylvania State College to help maintain the Conservation Education Laboratory for Teachers, which is being subsidized at present by several state conservation agencies and private groups. Commission personnel also assisted in field and classroom instruction insofar as the wildlife program was concerned.

4. Through the cooperation of the Hershey Estates, a large building in the Zoological Garden was made available to the Commission at no cost, including maintenance, for displaying its numerous inanimate exhibits during the summer months. In the fall and winter they are used at three major exhibits, namely, the State Farm Show at Harrisburg in January, the Philadelphia Motor Boat and Sportsmen's Show in March, and the Allegheny County Free Fair at Pittsburgh in September. Attendance at these three expositions is tremendous as can readily be seen from the following reports:

	1949	*1950*
Farm Show	450,000	400,000
Philadelphia Show	175,000	200,000
Pittsburgh Show	200,000	200,000

The Hershey exhibit which opened May 20 had an attendance of more than 350,000 as of this writing and is considered one of the most educational of all the Commission's exhibits.

At all four shows during 1950 the main themes were food and cover for wildlife and the protection of the valuable birds of prey. Live hawks and owls of all species were displayed uncaged through the use of jesses which permitted them to fly from the top of their perches to the ground.

Additional display units and new animal cages were acquired to embellish major exhibits. Among the former was a large continuously operative 35 mm slide projector with a 16" x 22" ground glass and synchronized recorder for narrating any subject or program which is to be emphasized.

The Museum Building at the Pymatuning Waterfowl Sanctuary continues to attract thousands of persons every summer. The museum contains behind

glass beautifully mounted specimens of all the waterfowl and shorebirds found in the area. Telescopes are on the terrace from which living birds can be observed on the lake, and ducks vie with thousands of carp for bread thrown into the spillway.

A naturalist-lecturer is stationed at the Museum on weekends and holidays from May through September to help the visitors identify the waterfowl and other fauna. A total of 111,190 visited the Museum in 1948 and 154,829 in 1949. People from every state and 32 foreign countries were represented including the Belgian Congo, Cape Colony, Alaska, Argentina, Australia, Austria, Canada, Canal Zone, China, Czechoslovakia, Cuba, Denmark, East Indies, Egypt, England, France, Germany, Hawaii, Holland, India, Ireland, Italy, Japan, Mexico, Norway, Palestine, Philippines, Puerto Rico, Scotland, Sweden, Switzerland, and Wales. Pennsylvania residents, however, totaled over 70% of the visitors.

The Commission cooperated in the program of the Junior Conservation Camp for Boys sponsored by the Federation of Sportsmen's Clubs and administered by the Educational Extension Service of The Pennsylvania State College. Three of its representatives spent several days during each of the four camping periods instructing the young men how to fire on the range, explaining the habits of wildlife, acquainting them with all the activities of the Commission, and pointing out how they can play a part in some of them. At the conclusion of each Camp period the boys were to return to their home stations and form Junior Conservation Clubs in their schools with the assistance of the local sportsmen's group which sponsored them. A follow-

The Commission cooperated with the state Federation of Sportsmen's Clubs in the program at a Junior Conservation Camp for boys located in Stone Valley near State College. Three of its representatives spent several days during each of the four summer camp periods instructing the junior sportsmen in safe gun handling, wildlife conservation, and game management.



up movement to encourage this objective was spearheaded by the Commission and later administered by the College.

There were 35 boys in camp in 1948, of that number not more than 10 organized junior clubs. In 1949 there were 171 boys of which 64 organized clubs, and another 25 carried on the work in already organized junior clubs, senior sportsmen's groups, scout troops, or 4-H clubs. Approximately 2,000 boys were affected by the work of the boys camp, and in reporting their activities the boys spoke to about 7,500 people.

A manual for Junior Conservation Clubs to which all the conservation agencies of the state contributed was completed and is being edited finally at this time. It should be ready for press this fall. Professor John F. Lewis, of the California Pennsylvania State Teachers College, and Miss Avis Cauley, of the Department of Public Instruction, who assisted him, deserve the utmost praise for the efforts they put forth in assembling and coordinating the material for this guide.

Game News

The GAME NEWS circulation showed a steady increase both in paid and complimentary subscriptions. As of May 31, 1950 the paid circulation of GAME NEWS was 45,058 compared with 35,808 on June 1, 1948, an increase of 9,250. Total circulation at the end of the period was 57,710. Revenue from subscriptions received during the two-year period and transmitted to the Department of Revenue for deposit in the Game Fund amounted to $55,728.56.

OTHER PUBLICATIONS

Three new paid bulletins and five new free leaflets were published and distributed during the biennium, as follows: Pennsylvania Birdlife, Pennsylvania Birds of Prey; Farmer and Wildlife; Pennsylvania's Day-Old Chick Program; Pennsylvania's Cooperative Farm-Game Program, Hunting is a Big Business; An Effective Trio; and Attracting Birds.

Text for three new bulletins were prepared, illustrated and edited. They include: The Whitetailed Deer; The Wild Turkey; and Pennsylvania Mammals. All are scheduled for publication during the next biennium.

A complete survey of the birds of the Pymatuning was also prepared, edited and illustrated. It will be published during the next biennium as a souvenir book and sold at cost to the thousands of persons who visit the Pymatuning Waterfowl Sanctuary every year.

The sum of $11,740.65 was received from the sale of paid publications other than GAME NEWS and transmitted to the Department of Revenue as follows: 2,529 Sets Bird Charts; 241 Single Charts; 9,490 Pennsylvania Bird Life, 5,015 Pennsylvania Birds of Prey; 5,709 Pennsylvania Wildlife; 2,015 Conservation Series; 24 Legal Procedures; 807 Sportsmen's Guide to Wild Ducks; 5 Farmer and Wildlife; 30 Bulletins No. 19; 55 Bulletins No. 15; and 53 Bulletins No. 17.

POSTERS

Several posters were printed and given wide distribution. In conjunction with the Institute of Sporting Arms & Ammunition Manufacturers, a vigorous poster campaign was conducted on hunting safely. Poster copies of Executive Director Frye's poem, "Handlin' A Gun," were sent to all Sportsmen's Organizations and other interested groups or individuals.

MOTION PICTURES

During the two-year period nearly 10,000 feet of 16 mm kodachrome motion pictures were acquired, principally by the Conservation Education Assistants. This footage, along with approximately 22,000 feet previously accumulated, was completely classified. Portions for use in all-purpose reels were removed and the remainder was returned to the respective divisions to be assembled for local use.

Three major pictures were prepared and bids entertained for their production, the first named below having recently come off the assembly line:

"Our Wildlife Heritage"—1,600 ft.—sound and color—depicting the entire work of the Commission.

"Small Game Hunting"—1,200 ft.—sound and color—depicting woodcock, wild turkey, squirrel, pheasant and rabbit hunting.

"Me and Farmer Brown"—800 ft.—sound and color—showing young wildlife around the farm. Prepared especially for schools.

"The Farmer's Part in Wildlife Conservation"—400 ft.—sound and color—portraying modern agriculture practices to improve crop and wildlife yields, and depicting young wild creatures in and around the farm.

Other pictures planned, the material for which is already available, will include short sound and color reels on song birds, game birds, predatory birds, waterfowl and mammals.

The motion picture library was further enlarged by the purchase of good conservation education films from outside sources, namely:

"The Living Earth"—1600 ft.—sound and color—4 parts.
"Wildlife Wonders of Pennsylvania"—1200 ft.—sound and color.
"Millpond Memories"—400 ft.—sound and color.
"Wildfowl in Slow Motion"—400 ft.—sound and color.
"Snakes"—400 ft.—sound and color.
"Want More Ducks"—800 ft.—sound and color.

FILM LIBRARY

The film library at Harrisburg was made available to organizations within a fifty mile perimeter of the city and was drawn upon by 410 schools and other groups, aggregating an attendance of 39,750.

FILM LABORATORY SERVICE

A new photo laboratory was installed to service both field and office requests for routine office work. The following service and materials were supplied under this system.

Printing	*Enlargements*	*Developing*
7126—4 x 5 prints	43— 6 x 20 prints	8—8 x 10 prints
1826—2 x 2 prints	129—11 x 14 prints	2831—4 x 5 prints
71—2¼ x 3¼ prints	5507— 8 x 10 prints	43—#620 rolls of film
	133— 5 x 7 prints	4—#127 rolls of film
	220— 4 x 5 prints	2—4 x 5 Ariel Film
	12— 2 x 3 prints	216—3¼ x 4¼ prints
	5— 2 x 2 prints	9—#120 rolls of film
		1—#50 rolls of film

NOTE—In addition 38—11 x 14 transparencies were made and colored for exhibit purposes.

PUBLICITY

Eighty-nine newspaper items were released from the Harrisburg office, and a number of photo spreads on new or seasonal activities were furnished to newspapers having roto or Sunday magazine sections. Special articles were contributed to a number of magazines.

Radio platters were furnished to 38 stations cooperating on special occasions such as Pennsylvania Week, Wildlife Week, Pennsylvania Conservation Week and Hunt Safely Week. A post-war big game season broadcast was made by the Director. Special broadcasts were made in connection with the Commission's live exhibit of hawks and owls both at the Philadelphia Motor Boat and Sportsmen's Show and the State Farm Show at Harrisburg.

The Chief of the Division was selected as a member of the examining board of the State of Maryland to determine qualified candidates for the position of a conservation education official.

The seven Conservation Education Assistants performed a splendid public relations and conservation education job, having serviced 968 meetings with a total attendance of 142,000 persons. Sportsmen's groups, schools and other youth groups made up the majority of the meetings but women's and Garden Clubs, Service Clubs and other interested groups also were contacted. In addition these men called personally on newspaper columnists, radio officials and prominent sportsmen and farm officials to establish better and closer relations and to pave the way for more cooperative endeavors. Game Protectors also attended numerous local meetings.

Ross Leffler School of Conservation

It is believed that the improved relations which now exist between the sportsmen, the farmers and the Commission; the inclination on the part of many people never before interested to suddenly become wildlife conscious; and the tremendous demand for visual aids indicates that the student training program and the refresher courses for in-service personnel are paying dividends in conservation education and public relations. These wholesome conditions are reflected in an aroused public interest following the graduation of each new class and each refresher group.

On June 1, 1948 twenty-seven resident prospective Game Protectors and two salaried Game Protectors from the Washington State Game Department, the latter two under the terms of the cost-plus training plan, were enrolled as the Fifth Student Class. Of the resident students 21 were married; 6 unmarried; 26 served in World War II; and 5 had prior service as Deputy Game Protectors. Twenty-five of the resident students successfully completed the twelve-month training and were graduated on May 27, 1949 at exercises in the Forum of the Education Building, Harrisburg. One trainee from Washington completed the course; the other was recalled for active field service.

During the summer of 1949 the entire salaried field personnel received in-service training for one week during five refresher classes. Supervisors of the seven Wildlife Conservation Divisions and Headquarters Staff Members served as instructors. In addition, two one-week classes were attended by 47 Deputy Game Protectors in which assistants from the several field divisions served as instructors.

SPECIAL CONFERENCES

Special conferences on public relations and conservation were held in 1949 and 1950. By invitation a number of outdoor editors, newspaper columnists, and sports writers attended the first one and contributed some very excellent suggestions on methods of handling publicity.

The Land Utilization Assistants of the seven divisions and Pittman-Robertson Project Leaders also met jointly during both years to discuss the land management program, and in 1950 the Project Leaders were again assembled to discuss the research program.

The Sixth Student Class of 25 men was enrolled on May 1, 1950. It included 20 married and 5 single men with an average age of twenty-six years, ten of which served as Deputy Game Protectors.

Wildlife Research Division

Research, which is too often considered in the light of experimentation, continued to play an important part in the work of the Commission and its findings of fact helped immeasurably in developing new wildlife management plans. These activities were conducted in two ways—as Pittman-Robertson Projects, and by workers at the Pennsylvania Cooperative Wildlife Research Unit at State College.

I. Current studies conducted as Pittman-Robertson Projects, seventy-five per cent of the costs borne by the Federal Government, include:

1. Survey of Pennsylvania Mammals—Four projects, one in the northcentral, southcentral, northeast and southeast, set up to obtain more factual information concerning the range, abundance, habitat preferences, life histories, ecological interrelationships, and economic importance of all the mammals in the Commonwealth. Such information is highly desirable in helping to prepare more complete game management plans. The studies in the northcentral and southcentral areas were begun November 1, 1948 and will be completed October 31, 1950. The studies in the northeast and southeast sections were begun July 1, 1949 and will be completed June 31, 1951. The completion of the latter two projects will terminate the entire survey in the state.

2. Cottontail Rabbit Management Study—Three projects, one in the northeast, northwest and southwest, to determine management plans by which the Commission and all interested individuals may restore harvestable surpluses of cottontail rabbits to the thousands of acres of abandoned farmlands throughout the Commonwealth.

3. A Study in Environmental Control on Forested Lands for Game Management—This project was established in order to determine the effects of bulldozing upon State Game Lands before widespread practice of its use may be employed. Phases of this study involve costs, the amount of food and cover made available to wildlife through its application and a comparison of results obtained with other management practices now in use. The project began in February 1948 will be completed January 31, 1951.

Studies completed as Pittman-Robertson Projects, 75 per cent of the cost having been borne by the Federal Government, include:

1. Survey of Pennsylvania Mammals—Two projects, one in the northwest and one in the southwest, were finished October 31, 1948 and June 31, 1949,



Hal Harrison Photo

A survey of Pennsylvania's Migratory Waterfowl involved widespread live-trapping of various species. The birds were banded and with cooperation from the nation's duck hunters who reported their bag of banded birds, much information was gained on Pennsylvania's part in the waterfowl picture.

respectively. Final reports on these projects were submitted, printed in booklet form, and distributed.

2. Bobwhite Quail Study—Two projects, one in the northwest and one in the southeast, to determine the survival of pen-reared bobwhite quail following their release in the wild and their survival through the hunting season and winter to the breeding season the following spring. The last of the two projects was completed April, 1950, and the conclusions and recommendations submitted to the Commission.

3. Survey of Pennsylvania Migratory Waterfowl—This survey was established to determine what part Pennsylvania can play to offset the general decrease in waterfowl populations throughout the northeastern United States. It was completed January 31, 1950. The conclusions and recommendations were submitted to the Commission and the report has been printed.

4. Research Studies of Predators in the Northeastern United States—The first phase of this study, consisting of an exhaustive search of the literature regarding stomach and scat analyses in northeastern United States was completed February, 1950. An analysis of control measures of all predatory animals was also prepared. The second phase consisting of a trappers' poll will begin August 16, 1950.

5. Wood Duck Nesting Boxes—More than 700 wood duck nesting boxes were constructed with Federal-aid Funds under the supervision of the Research Division and distributed throughout the state for erection. This work was completed by March 15, 1950. Questionnaires will be used following the nesting season to determine the success attained.

II. Studies conducted by the Pennsylvania Cooperative Wildlife Research Unit at State College include:

1. Vitamin A Study—Bobwhite Quail—This project, supervised by the Department of Poultry Husbandry and financed by the Pennsylvania Game Commission, was set up to further study the vitamin A factor in the bobwhite.

2. Cottontail Population and Mortality Study—This project, financed by the Pennsylvania Game Commission, involves the study of the cottontail population on a given area and the mortality factors that diminish their number.

3. Studies of the Eastern Ruffed Grouse in Pennsylvania—These studies involve two projects, one project in Stone Valley, Huntingdon County, and the other in the Barrens, in Centre County.

4. A Study of the Life History and Ecology of the Eastern Gray Squirrel in Relation to Forest Communities—This project endeavors to find out the habit requirements necessary to retain a squirrel population, the life history of the gray squirrel, and the interrelationships of other animals on the area to squirrel management.

5. A Study of the Ring-necked Pheasant in Lehigh County, Pennsylvania—The object of this project was to study the population and mortality with an aim toward practical management of those factors responsible for decreased pheasant population. This project was terminated February 1, 1950.

6. Woodcock Population Studies—A careful census of the woodcock was carried on as in previous years. The information secured in this census is forwarded to the U. S. Fish and Wildlife Service so that it can be used in regulating seasons and bag limits for this migratory game bird. It appears from this census that there are at least as many birds this year as last year. It

is also heartening to note that this year Pennsylvania is one of six states cooperating in this census, whereas only two cooperated in past years.

7. A Study of Fertilizer Treatments on Beech and Various Oaks to Determine Any Increase in Mast Production—This project, conducted by Dr. P. F. English and Mr. H. Norton Cope, was begun in 1944. Progress in this type of study is slow but the much needed information may soon be acquired.

8. A Study of the Flowering and Post-Flowering Periods of the Oaks, Hickories and Walnuts with Reference to the Forecasting of Mast Production—This project was conducted by Dr. Ward M. Sharp and Mr. Henry H. Chisman.

9. Food Habits and Activities of the House Cat in Pennsylvania—This project was completed May, 1950.

BUREAU OF WILDLIFE CONSERVATION

Land Utilization Division

When the Commission reorganized its administrative staffs the Land Utilization Division, formerly Land Operations Division, became responsible for purchasing and leasing lands for wildlife management, in addition to maintenance, and food and cover development on State Game Lands and leased areas. The over-all job of acquiring and managing Game Lands is a big one and three separate functional Sections within the Division are required to administer this work.

The Land Utilization Division is responsible for purchasing and leasing lands for wildlife management, in addition to the establishment, maintenance and food and cover development on State Lands and leased areas.



LAND TITLE AND RECORD SECTION

This section is responsible for land acquisition and leasing, and has charge of all records, titles, mapping, engineering, and related work.

Game Management Areas Acquired

The aggregate area of State Game Lands acquired since the program started in 1920 has reached a total of 880,438 acres, comprising 194 units, distributed through 63 of the Commonwealth's 67 counties. An additional 13,723 acres were under contract for purchase at the end of the biennium.

The consideration paid for the 880,438 acres amounted to $3,269,013.95, a general average of $3.72 per acre. This does not include expenditures for securing options, land examinations, title abstracting and conveyancing, boundary line surveys, mapping and incidentals.

During the two-year period under consideration a total of 22,841 acres was acquired by purchase, transfer and gift, at an outlay of $71,517.04, an average of $3.24 per acre.

Included in the more important transactions consummated were:

(a) 46.8 acres added to S. G. L. No. 31, in Jefferson County, at a cost of $280.80.

(b) 457.2 acres to S. G. L. No. 35, Susquehanna County, at a cost of $2,791.50.

(c) 573.7 acres to S. G. L. No. 37, Bedford County, costing $1,496.54.

(d) 360.2 acres to S. G. L. No. 38, Monroe County, at a cost of $360.20.

(e) 953.6 acres to S. G. L. No. 40, Carbon County, at a cost of $6,675.20.

(f) 6.1 acres to S. G. L. No. 43, Chester and Berks Counties, in exchange for 1 acre, leaving a net increase of 5.1 acres.

(g) 1 acre to S. G. L. No. 51, Fayette County, at a cost of $605. This purchase included an abandoned school house, which is being used for administrative purposes.

(h) 95.8 acres to S. G. L. No. 86, Warren County, at a cost of $574.80.

(i) 55.6 acres to S. G. L. No. 92, Centre County, at a cost of $222.40

(j) 46.1 acres to S. G. L. No. 95, Butler County, including 44.0 acres received from a land exchange and 2.1 acres purchased at a cost of $60.

(k) 40.2 acres to S. G. L. No. 96, Venango County, at a cost of $201.00.

(l) 1,406.9 acres to S. G. L. No. 104, Bedford and Somerset Counties, at a cost of $6,331.05.

(m) 1,549.1 acres to S. G. L. No. 108, Cambria County, including 671.6 acres received from a land exchange and 877.5 acres otherwise acquired.

(n) 62.0 acres to S. G. L. No. 122, Crawford County, at a cost of $248.

(o) 14,176.6 acres to S. G. L. No. 127, Monroe County, of which 157.6 acres was purchased at a cost of $1,576; the remaining 14,019 acres were transferred to the Game Commission by the U. S. War Assets Administration without charge.

(p) 129.6 acres to S. G. L. No. 129, Carbon and Monroe Counties, in exchange for 30.1 acres conveyed, leaving a net increase of 99.5 acres.

(q) 97.0 acres to S. G. L. No. 144, Crawford County, at a cost of $485.

(r) 98.8 acres to S. G. L. No. 159, Wayne County, at a cost of $345.80.

(s) 239.2 acres and buildings to S. G. L. No. 169, Cumberland County, at a cost of $5,501.60.

(t) 701.8 acres to S. G. L. No. 198, Blair and Cambria Counties.

(u) 180.5 acres to S. G. L. No. 206, Luzerne County, at a cost of $902.50.

(v) 407.3 acres to S. G. L. No. 211, Dauphin and Lebanon Counties at a cost of $1,138.

(w) 1,979.0 acres to S. G. L. No. 213, Crawford County, at a cost of $43,116.50.

The United States government condemned 133.8 acres of S. G. L. No. 25, Elk County, for use in the construction and operation of the project known as East Branch Clarion River Dam and Reservoir, for which the Game Commission received $1,070.

Federal Aid in Land Acquisition

Federal-Aid-in-Wildlife Restoration Funds continue to help materially in the purchase of State Game Lands. They are provided for by the Pittman-Robertson Act of September 2, 1937, and are derived from the excise tax on sales of firearms and ammunition. Approximately 92% of such funds, which are appropriated annually by Congress, are apportioned to the States by the U. S. Fish and Wildlife Service. A total of 243 tracts aggregating 164,284.5 acres has been acquired with the aid of Federal Funds, at an aggregate cost of $810,671.44. This includes not only the consideration paid for the land, but also expenditures for boundary line surveys and mapping, as well as title abstracting and conveyance. Since the Federal Government reimburses the Commission to the extent of 75% of the total cost of approved projects, the Commission has received $608,003.58 of Federal Aid funds for this purpose.

Fixed Charges in Lieu of Taxes

Commonwealth-owned lands being exempt from taxation, the Commission is authorized to pay a fixed charge of five cents for each acre of State Game Lands and Game Farms it acquires. Of this, one cent is paid to the County Treasurer and two cents to Township School Directors and Township Road Supervisors for each acre acquired in the respective counties and townships. Such fixed charges are paid during calendar years and in 64 counties. Amounts paid during the calendar years 1948 and 1949 were respectively $42,786.81 and $43,657.13.

A grand total of $631,256.48 has been paid on game lands and game farms since lands were first purchased by the Commission.

The legislature of 1949 provided that beginning with the calendar year 1950 the rate of fixed charges shall be seven and one-half cents per acre, divided equally between the three taxing authorities.

Cooperative Farm-Game Program

Fifty-six (56) new co-ops were established, bringing the total to 158, represented by 7,902 agreements and 7,653 farms, with a total of 767,729 acres.

Auxiliary Game Refuge Projects (General Classification)

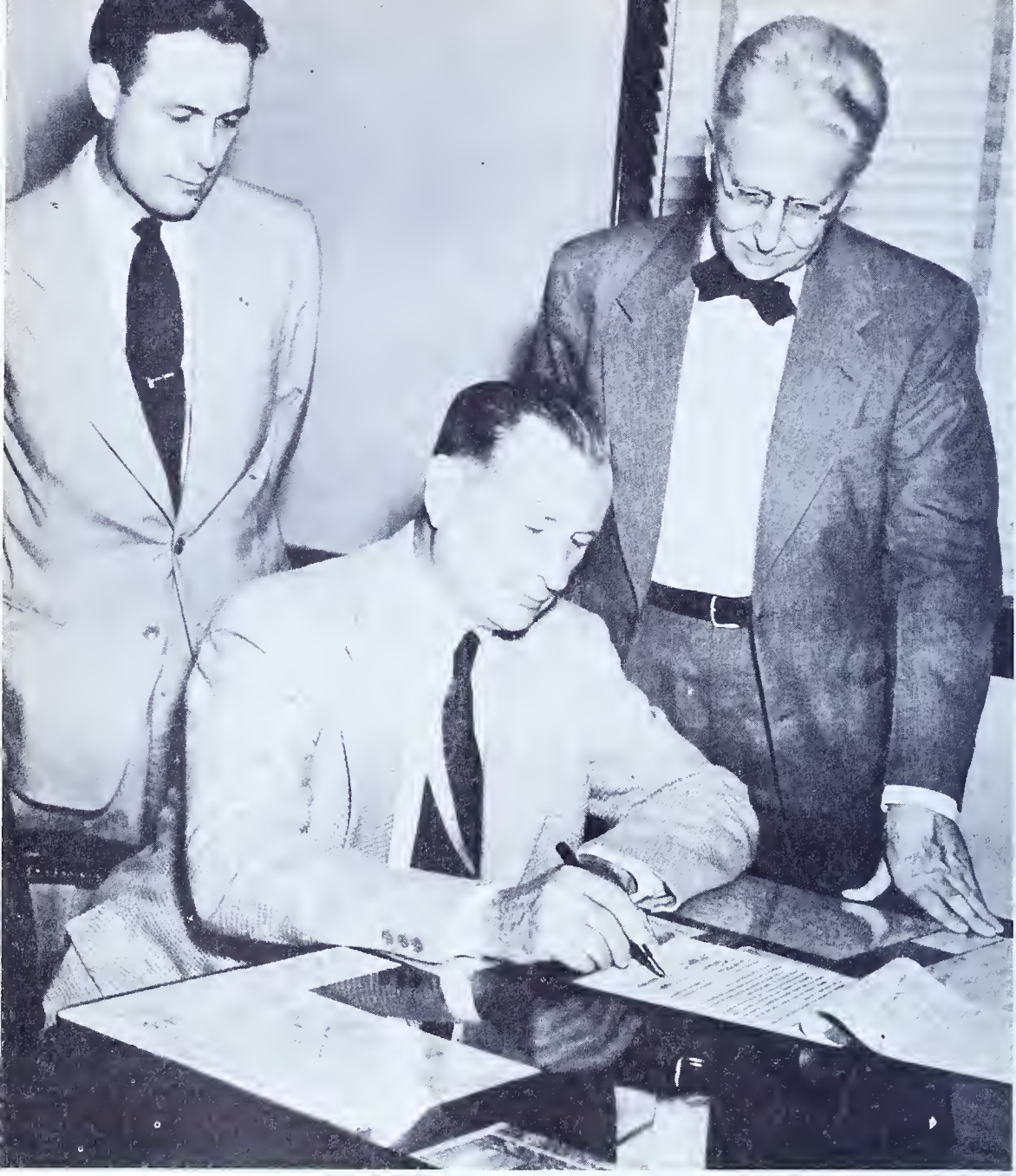
These projects decreased from 35 to 31, with a net loss of 3,525 acres. The 31 projects contain a total of 23,917 acres, of which 5,499 acres are maintained as refuges and 18,418 acres are open to public hunting.

Game Propagation Areas

Game Propagation Areas increased from 70 to 132, including 64 Rabbit Farms authorized by the Commission on October 6, 1949. The 132 projects contain a total of 30,280 acres, an increase of 5,097 acres.

Special Preserves

Special preserves include eight Dog Training Preserves having a total area of 5,346 acres, and two Archery Preserves, one in Forest and one in Sullivan County.



Executive Director Tom Frye signed a State-Federal agreement in August, 1949, for a joint wildlife management program on the one-half million acre Allegheny National Forest in northwestern Pennsylvania. Forest Supervisor Dick Costley, left, and Regional Forester R. M. Evans, right, witness the signature.

Special Wildlife Projects

New projects were established and others were discontinued, 108 projects, totaling 33,736 acres, being operative at the close of the biennium.

Summation of Acreage in Land Management Projects

Lands either owned or under nominal control of the Commission and used for game management projects of various types, including game farms and primary refuges located within State Forests and other public lands, aggregate 1,749,925 acres, an increase of 437,607 acres.

Easements Granted

Most of the easements granted were rights-of-way for oil, gas, electric and telephone lines across the game lands and game farms. The rights-of-way comprised 199.5 acres. The 41 grantees paid $3,019.50 for forest growth cut. Rentals paid for all existing rights-of-way totaled $7,117.31.

ENGINEERING UNIT

Field Work

Boundary surveys of 48 tracts of land under contract for purchase were completed, totaling 32,660 acres and located in 15 counties. Approximately 400 miles of line were surveyed to establish 278 miles of boundaries.

Nine miles of boundary lines were resurveyed to settle adverse claims and 28 miles were retraced for painting and posting.

Surveys were made of 11 proposed dam-sites on Game Lands.

Topographic and property surveys were made of the Conneaut Marsh in Crawford County covering approximately 5,000 acres, and the Negro Glade Marsh in Somerset County, covering 300 acres.

Engineering surveys and supervision are being furnished for one dam now under construction on S. G. L. No. 183, Pike County.

Five and one-half miles of new roads were located and surveyed.

Seven marshes on S. G. L. No. 127 were examined and surveyed for development for waterfowl.

Office Work

The surveys of 48 additions to Game Lands were plotted, traced, areas calculated and deed descriptions prepared. Warrant data was abstracted and mapped for each tract, and survey information prepared for use of the title abstractors and surveyors.

Twenty-eight maps of State Game Lands were revised and retraced, and 12 detail maps of new purchases completed.

Thirty-seven hundred and forty-six (3,746) farms were mapped and prints and data prepared for the Farm-Game Program. This involved 414,694 acres of land and required approximately 8,000 printed maps for the agreements and field work.

Plans and estimates were prepared for 10 dams, of which three were completed in detail. One has been approved by the Water & Power Resources Board and is now under construction.

Plans and estimates were prepared for 11 equipment buildings and tool houses, besides numerous revisions and additions to plans of existing buildings.

Two hundred and forty tracts were sketched for Propagation and Special Wildlife Projects involving 64,000 acres.

Numerous maps and drawings of the state and counties, signs, charts, graphs and special drawings, totaling approximately 200, for various units of the Commission have been completed.

FARM-GAME COOPERATIVE SECTION

This section of the Land Utilization Division was responsible for all activities on Cooperative Farm-Game Projects and related areas.

Leasing and Mapping

Personnel expanding the Cooperative Farm-Game Program, processed 3,831 new agreements for 3,746 farms containing 414,694 acres, primarily in the

better agricultural areas. As a result 56 new projects were established, bringing the number to 158 comprising 7,653 farms totaling 767,729 acres.

Rough mapping of all acreage was completed in the field and final prints prepared by the Engineering unit.

Establishment and Maintenance

In an effort to increase the supply of wildlife, 239 refuges were established, bringing the total to 785, all of which were maintained according to law.

During the period, 1,411 Safety Zones were established, while the aggregate total of 8,169 were properly maintained. Necessary signs advertising the projects and requesting sportsmen to cooperate with landowners were conspicuously posted.

Wildlife Management and Soil Conservation Practices

Field personnel, in an effort to improve wildlife habitat on farm areas, assisted cooperators by establishing more than 200,000 linear feet of wildlife borders, comprising 196 acres. Over 1,300 pounds of serecia lespedeza was planted to help provide these essential wildlife areas. As additional food for game, 40 bushels of buckwheat and soybeans were distributed to farmers for planting along field edges.

Habitat for farm game species was improved by distributing over 1,440,000 evergreen and deciduous tree, shrub and vine seedlings to cooperators. In addition to benefiting wildlife, these plantings will help conserve soil and water.

Although fields planted to various farm crops provide food and cover for wildlife, habitat for farm-game was improved by planting over 300 acres and purchasing nearly 480 acres of food plots on the project acreage. Crop yields on the farms were increased by distributing over 5,730 pints of crow repellent, which was used to combat crow and blackbird damage on newly seeded corn.

Since rye grass seeded in field corn at the last cultivation not only forms a cover which reduces erosion, but also benefits wildlife, personnel distributed over 150,800 pounds to cooperators, who matched this amount when seeding their fields.

Game Commission personnel rendered technical assistance and advice on conservation practices by surveying lines on over 10,300 acres which were planted on the contour, establishing over 34,600 linear feet of drainage ditches which benefited 950 acres, locating over 26,700 linear feet of sod waterways which protected 170 acres, recommending pasture management on 728 acres, surveying over 28,600 linear feet of diversion ditches, and planting 300 feet of windbreaks.

Game Stocked

Following Commission policy, Cooperative Farm-Game Projects were stocked with 31,831 rabbits, 69,559 ringnecked pheasants, 14,290 quail, 115 gray squirrels and 37 wild turkeys. With protection afforded by refuge areas, and the stocking of wildlife species, hunting has improved on these leased areas.

Predators Removed

In an effort to protect the various game species on the projects, employes removed 3,071 foxes, 1,354 weasels, 2,844 opossums, 2,334 predatory hawks and owls and 1,540 other predators from them.

Miscellaneous

Personnel participated in 200 educational meetings at which an estimated 12,000 persons were in attendance.

Over 400 in-service meetings were also held as training for field workers employed on cooperative farm-game projects.

Employes constructed 117 feeding shelters, where grain was distributed for wildlife consumption during severe winter weather.

Federal Aid Project

Inasmuch as the Federal Aid in Wildlife Act provides that the United States Government will finance 75 per cent of any approved wildlife project, the Farm-Game Cooperative Section administers the following project under this act.

"Farm-Game Development"—All activities on Farm-Game Development are administered by the Farm-Game Cooperative Section.

With the exception of maintenance of projects established by the Pennsylvania Game Commission prior to January 1, 1948, all leasing, mapping, establishment, maintenance, soil and wildlife development on Cooperative Farm-Game Projects are partly financed with Federal Aid funds. Six salaried employes and necessary per diem workers conduct this program, with part-time supervisory help from other salaried personnel, not included on the project payroll.

Accomplishments as reported for the Farm-Game Cooperative Section can be largely credited to this Federal Aid Project.

FOOD AND COVER SECTION

In managing State Game Lands and leased areas, with the exception of Cooperative Farm-Game Projects, this section maintained over 4,000 miles of Game Land Boundary lines, 840 miles of previously constructed roads, 600 miles of old fire trails, and refuges or special areas totaling over 155,000 acres. Annual maintenance is essential on all lands if proper respect by the public is expected.

Establishment or construction work included 95 miles of dirt roads, nine miles of fire trails, and 70 miles of new refuge lines. In addition 18 storage sheds and 18 corn cribs were constructed to store Commission-owned farming equipment, and various grains harvested from food plots and share-cropped areas.

Ninety-five miles of dirt roads were constructed on State Game Lands and leased areas by the Food and Cover Section of the Land Utilization Division during the biennium.



Management of Food Plots and Open Field Areas

Under an accelerated program to improve game habitat on Commission owned and leased lands, 2,330 acres of forested or reverting field areas were cleared to provide additional food plots and more cover for game. Edges of these openings were planted with native game food producing shrubs and vines. Corn, various cereal grains, grasses and clovers were planted in small plots totaling 3,970 acres to provide supplemental food and cover for all species of wildlife.

Nesting sites were improved by mowing 585 acres of old fields, and fertilizing or liming over 900 acres to improve the quality of grasses and clovers.

More than 3640 acres of Commission-owned lands were farmed on a share-crop basis by interested farmers. In addition to maintaining these field areas under proper crop rotations, the Commission received almost 20,000 bushels of harvested grains, and an additional 170 acres left standing for wildlife food, as their share of the crops planted.

Soil Conservation practices, including contour planting, strip cropping, diversion ditches and sod waterways, were applied to 3260 acres of the farmland managed as food plot areas or share-cropped. This type of field management not only conserves soil and water on lands owned or controlled by the Pennsylvania Game Commission, but each field is a demonstration area which creates local interest in conservation of the land.

More than 1,260 separate food plots totaling 470 acres were purchased from farmers at locations on private land where such plantings would provide Food and Cover for wildlife. Many of these were acquired in or near areas previously stocked with game by the Commission.

Timber Sales and Forest Cuttings

Sale of forest products improved environment for wildlife on 8,500 acres of State Game Lands. In addition, these sales provided a cash return of $136,384.62. Products removed included 4,893,000 board feet of saw timber, 5,980 tons of mine timbers, 5,735 cords of paperwood and chemical wood, 279,130 posts and props, 1,620 cords of firewood and 390 pounds of ground pine.

Harvesting timber on a selective basis is one of the most satisfactory methods of developing improved habitat for wildlife.

Over 9,300 additional acres were improved for forest game species by Game Commission personnel. Treatment of these areas included release cuttings, thinning of timber stands, small slashings to provide game cover, pruning fruit trees and creating cover in strips by pushing over second growth on unproductive timber areas with bulldozers.

Seedlings and Transplants to Provide Food and Cover

Over 2,100 acres of open areas on State Game Lands and leased areas were improved by planting 2,168,000 evergreen and deciduous tree, shrub and vine seedlings. Although the majority of these were purchased from the Pennsylvania Department of Forests and Waters, Welfare Department, and Commercial Nurseries, 245,000 multiflora rose, included in the above total, were grown on State Game Lands and distributed to planting areas. Ten nurseries, totaling 11 acres, are now planted with shrub seed to provide future seedling stock.

In addition to the above 31,700 native plants or cuttings from game food producing shrubs or vines were transplanted to permanent locations, improving approximately 30 acres. Included in the total were over 1,000 highbush huckleberry plants which were moved from swamp areas on State Game

Lands to desirable locations on the Allegheny National Forest and Game Lands in Western Pennsylvania.

Waterfowl Management

Field employes planted seed, tubers, or plants of wild duck millet, smartweed, duck potato, water celery, Sago pond weed, wild rice, Wampee, duck meat, water-shield, reed grass and other aquatic plants to increase food and cover for waterfowl. Such plantings improved more than 800 acres of waterfowl feeding grounds in northeastern and southwestern Pennsylvania.

Dams or Ponds Surveyed and Constructed

Many dam locations on State Game Lands were surveyed to determine possible sites to provide areas for waterfowl. Included among these are several small dams on the former Tobyhanna Military Reservation, now Game Lands No. 127, Monroe County; Decker Marsh on State Game Lands No. 183, Pike County; and a small dam on State Game Lands No. 39, Venango County, all of which have definite possibilities for development.

Farm ponds were surveyed on State Game Lands No. 205, Lehigh County, No. 173, Beaver County and No. 179, Greene County. Five ponds totaling three acres were constructed on State Game Lands No. 173 and No. 179.

In addition an extensive survey was made covering a dam site on Negro Glade Run, Somerset County, and the possibility of purchase investigated.

Cooperation on Allegheny National Forest

Although the Commission has always cooperated with personnel on the Allegheny National Forest, it was not until February 1, 1950, that crews employed by the Commission conducted various wildlife management practices on the forest. Since that time two crews of five men each have improved 50 acres by removing competitive growth around game food producing trees, shrubs and vines, released 2,740 fruit trees on 300 acres, pruned 3,670 trees on 325 acres, planted six acres to grains to provide food plots, improved two seep areas as management for wild turkey and planted 30,000 seedlings to provide food and cover for wildlife.

Federal Aid Projects

Projects which the Food and Cover Section administered with the help of Federal Funds were as follows: "Cover Type and Soils Mapping of State Game Lands"—Under this project field mapping of soils was completed on over 53,000 acres, cover conditions were mapped on 39,000 acres and a portion of another 37,000 acres, supplemental cover mapping information was gathered on 118,000 acres, inked tracings were completed for 36 tracts, and management plans completed for five State Game Lands totaling over 37,000 acres. Plans for development and management of food and cover were completed for four additional tracts and a demonstration on the Allegheny National Forest.

"Forest Wildlife Development"—In an effort to improve wildlife conditions through selective forest cuttings and thinnings on State Game Lands No. 25, Elk County, over 400 acres were treated and more than 100,000 board feet of sawtimber and 3,500 cords of ash billets, pulp and chemical wood were sold. An income of $56,400 derived from these sales was returned to the Game Fund and designated for future use in conducting similar cuttings.

"Food and Cover Development"—Although this project did not become operative until February 1, 1949, work included the clearing of more than 2,300 acres, planting 3,570 acres to food plots, mowing 320 acres, fertilizing or

liming almost 1,200 acres to improve nesting cover and food for wildlife species. In completing the above more than 1,800 acres were treated by applying soil conserving practices such as contour planting, strip cropping, sod waterways, woodland borders and cover crops. In addition, 6,975 acres of forest area were improved by releasing game food producing plants and thinning timber to develop improved wildlife habitat. Over 600 acres of feeding grounds for waterfowl were improved by planting wild duck millet, smartweed, Duck Potato, wild rice and other important food producing aquatic plants.

Food and Cover adjacent to areas planted with corn and cereal crops were improved by planting 2,168,000 tree shrub and vine seedlings and over 31,700 transplants and cuttings of native plants productive of food relished by wildlife.

The totals reported above are included in information on management of Food plots and Open Areas, Forest Cuttings, Seedlings and transplants, and Waterfowl management given elsewhere in this report.

"Coordination Project"—This project provided the personnel required to inspect and approve activities and prepare new projects, project amendments, service vouchers and submit necessary records and reports covering Pittman-Robertson Projects administered by the Wildlife Conservation Bureau.

Miscellaneous

In addition to the many activities previously mentioned, personnel constructed and erected numerous wood duck nesting boxes, game feeders, retreats, and signs; helped suppress 36 forest fires which burned 4,300 acres of State Game Lands and almost 5,000 acres of private forests; fed game during winter months, and completed many other operations too numerous to mention.

A sound and vigorous law enforcement program was maintained and expanded during these two years. Pennsylvania Game Protectors were in the field night and day during the open seasons checking bags to determine size of kill, answering countless questions for hunters, insuring that the Game Law would be observed and good sportsmen's reputations would not be endangered by the acts of a careless or indifferent few.



Wildlife Protection Division

A sound and vigorous law enforcement program was aimed at the deliberate and wilful violator, the malicious vandal, and the careless and indifferent gunner. By maintaining the field force at maximum personnel, by equipping these officers better, by advanced training methods, and by greatly strengthening the force of Deputy Game Protectors, it was possible to successfully prosecute many more cases and collect many more penalties than ever before.

Successful prosecutions numbered 10,932 compared with the previous 8,281, an increase of 2,651 cases. Penalties amounted to $349,814.15 compared with $266,753.50, an increase of $83,060.65. Jail sentences were meted out in many instances in lieu of the cash penalties or where the law otherwise demanded it.

Following is a 10-year tabulation of prosecutions and penalties paid:

TEN-YEAR SUMMARY

Fiscal Year	*No. of Prosecutions*	*Penalties Collected*
1940-1941	3,972	$69,812.68
1941-1942	3,534	57,883.21
1942-1943	2,501	50,441.55
1943-1944	2,669	68,524.50
1944-1945	1,831	51,687.65
1945-1946	2,168	63,188.00
1946-1947	4,030	136,697.75
1947-1948	4,251	130,055.75
1948-1949	4,825	148,925.80
1949-1950	6,107	200,888.35

HUNTING LICENSE REVOCATIONS

Pursuant to an established policy of the Commission, persons apprehended for major violations forfeit their hunting and trapping privileges in addition to the payment of cash penalties. Revocations are considered on a basis of the offense committed, and may be from one to ten years. The following hunting licenses were revoked:

Hunters' licenses revoked in 1948	703
Hunters' licenses revoked in 1949	794
Total	1,497

REFEREE'S HEARINGS

Hunters who through negligence or carelessness injure another, or themselves, by gunfire, or who commit acts of vandalism, assault, etc., while hunting or trapping, are subject to license revocation based on findings during referee hearings held in accordance with Section 315 of the Game Code, or through regular prosecution proceedings before the Judge of the County Court. Such hearings were held as follows:

Year	*Hearings*	*Licenses Revoked*	*Defendants Discharged*
1948	211	122	89
1949	177	128	49
Totals	388	250	138

LICENSE REVOCATIONS BY COURTS OF QUARTER SESSIONS

The following revocations were imposed upon hunters who shot at or injured another person in mistake for game:

1948	12
1949	14
Total	26

DEER KILLED TO PROTECT PROPERTY

The deer herd continued to increase despite an antlerless season in 1949 forcing many farmers and others qualified to exercise their rights under the law permitting them to kill the animals when observed doing material damage to cultivated crops, nurseries, orchards, etc. To protect themselves from such depredations, they killed and reported 4,870 of these animals as compared with 3,596 the previous biennium, an increase of 1,274.

1948-1949	1,608
1949-1950	3,262
Total	4,870

SPECIAL GAME PERMITS

Special permits are required to carry on certain activities as follows:

	Archery	*Collecting*	*Dog Training*	*Ferret Breeder*	*Ferret Owner*
1948-1949	69	17	135	2	5
1949-1950	60	18	181	2	2

	Field Trial	*Fox Hunting*	*Fur Dealer's*	*Fur Dealer's Employe's*	*Fur Dealer's Non-Res.*
1948-1949	127	25	382	28	21
1949-1950	137	25	317	20	12

	Fur Farming	*Game Propagating*	*Regulated Shooting Grounds*	*Retriever Trials*	*Roadside Menageries*
1948-1949	428	243	30	3	26
1949-1950	424	291	39	4	33

	Taxidermy
1948-1949	119
1949-1950	123

1948-1949	1666	$17,453.00
1949-1950	1688	17,645.00
Total	3348	35,098.00

BEAR DAMAGE

Hungry bears, following hibernation, destroyed livestock, poultry and bee hives to the extent of $3,139.47, which was paid from a special annual five thousand dollar fund set aside for this purpose.

Paid for bear damage 1948-1949	$1,335.95
Paid for bear damage 1949-1950	1,803.52
Total	$3,139.47

County	No. of Claims	Sheep Killed	Bees Etc.	Hogs	Pigs	Calves	Goats	Amount Paid
Bedford	1	..	..	..	..	1	..	$ 36.40
Blair	1	..	*	..	..	..	..	14.70
Bradford	1	..	*	..	..	..	..	100.00
Cameron	1	..	*	..	..	..	..	10.50
Centre	1	..	..	2	..	..	..	99.55
Clarion	3	..	*	..	1	..	..	52.00
Clearfield	2	..	*	..	..	..	..	71.60
Clinton	2	..	*	..	..	..	..	44.50
Elk	8	..	*	..	..	..	..	260.15
Forest	7	5	..	1	1	..	..	207.00
Jefferson	8	..	*	2	..	..	..	107.00
Luzerne	1	..	*	..	..	..	..	9.00
Lycoming	9	1	*	..	1	..	1	341.50
McKean	26	5	*	1	..	..	..	614.50
Monroe	1	..	*	..	..	..	..	40.00
Northumberland	1	..	*	..	..	..	..	210.00
Potter	5	6	*	..	..	..	..	226.97
Snyder	2	3	..	..	..	..	..	67.50
Somerset	1	..	..	..	..	..	1	20.00
Tioga	14	11	*	..	..	..	..	418.00
Union	2	..	..	2	..	..	..	67.50
Venango	1	..	*	..	..	..	..	45.00
Warren	6	..	*	..	..	..	..	76.00
Totals	104	31	..	8	3	1	2	$3,139.47

* Bee claims includes hives, bees, frames, honey, etc.

TAXIDERMY EXAMINATIONS

Examination of the work of potential taxidermists by a Taxidermy Board appointed by the Commission safeguards successful hunters in securing a good job on their prize trophies.

During the 1948-1949 fiscal year seven, and during the 1949-1950 fiscal year nine applicants applied for the required permits and all sixteen were issued Taxidermy Permits after they had successfully passed the examination.

NEW EQUIPMENT FOR FIELD OFFICERS

Realizing that the field officers could do a better job of law enforcement and public relations work when better outfitted, the Commission purchased new uniforms and other equipment including sidearms and field glasses for



The Commission's field force, undergoing an intensive refresher course at the Ross Leffler School of Conservation near Brockway, was visited during the summer of 1948 by this fawn who wandered into the classroom from nearby woods.

them. It is now one of the best equipped field organizations of its kind in existence, and as a result is rendering much better service.

The equipment furnished follows:

Dress Uniforms

Consisting of hat, coat, trousers, shoes, overcoat and shirts.

Work Uniforms

Summer weight. Consisting of field jacket, two pairs trousers and headgear.

Winter Weight Uniforms—100% Wool.

Consisting of coat, cap and one pair trousers.

Thomson Pistol Grip Spotlights with "Police Stop" Screens.

Sidearms—Colt .38 Special Officer's Model and Heiser Shoulder Holsters.

Field Glasses.

Glasses are 6 x 30 binoculars of the M-3 Army type.

(This is the first time the Commission has furnished sidearms, shoulder holsters or binoculars to its employes.)

PREDATOR CONTROL

At the April, 1949 meeting of the Commission the Predator Control Committee, after considerable study of the predator situation, reported the population of some species considerably lower than it was several years ago, and suggested that it might be advisable to reduce or remove the bounty in some instances. On the other hand, it believed that greater damage was being done by great-horned owls and goshawks than had previously been recognized, and pointed out that additional incentives were necessary to bring these species under control.

Acting upon the Committee's recommendation, the Commission passed a resolution removing the bounty on the red fox and increasing it on great-horned owls and goshawks. Bounty rates before and after the changes were effected are set forth below. (A special act of General Assembly restricts the killing of foxes to the protection of personal property in Chester and Delaware Counties, therefore, no bounties are paid on either red or gray foxes taken in those two counties.)

BOUNTIES FOR PERIOD FROM JUNE 1, 1949 TO AND INCLUDING JULY 31, 1949

1. *Gray Fox*—$4.00 for each gray fox, except as indicated.
2. *Red Fox*—$4.00 for each red fox, except as indicated.
3. *Weasel*—$1.00 for each weasel.
4. *Great-horned Owl*—$4.00 for each adult great-horned owl, and $2.00 for fledgling which has not left the nest.
5. *Goshawk*—$2.00 for each adult goshawk, and $1.00 for fledgling which has not left the nest.

BOUNTIES FOR PERIOD FROM AUGUST 1, 1949 TO AND INCLUDING MAY 31, 1950

1. *Gray Fox*—$4.00 for each gray fox, except as indicated.
2. *Red Fox*—None.
3. *Weasel*—$1.00 for each weasel.
4. *Great-horned Owl*—$5.00 for each adult great-horned owl, and $2.50 for fledgling which has not left the nest.
5. *Goshawk*—$5.00 for each adult goshawk, and $2.50 for fledgling which has not left the nest.

Fiscal Years	*Weasels*	*Goshawks*	*Great-horned Owls*	*Gray Fox*	*Red Fox*
1948-1949	20,263	23	†1,836	17,770	17,561
1949-1950	19,991	44	1,942	15,856	*1,314
Totals	40,254	67	3,779	33,626	18,875

†68 Fledglings. *No Bounty after August 1, 1949.

Monies paid Fiscal Year 1948-1949	$168,841
Monies paid Fiscal Year 1949-1950	98,255
Total	$267,096

Number of claims directed for field investigation.

Fiscal Year 1948-1949	452
Fiscal Year 1949-1950	208
Total	660

Prosecutions resulting from investigations—$6,325.00

Saving in monies resulting from non-payment of irregular and fraudulent claims—$5,135.00

FURBEARERS

Although fewer furbearing animals were taken during this biennium than last, the fact remains that Pennsylvania is still rich in this natural resource and that trappers and farm boys are making a handsome annual profit on the harvest.

Following is a record of the take and the amount paid by fur dealers during the two-year period.

1947-1948

Species	*Number Taken*	*Amount Paid by Fur Dealers*
Muskrats	389,382	$1,025,318.48
Skunks	61,045	61,728.73
Minks	10,679	219,317.30
Oppossums	39,344	13,371.19
Beavers	2,910	83,410.16
Otters	9	139.00
Raccoons	28,436	31,811.20
Weasels	18,807	27,126.08
Red Foxes	16,606	12,502.39
Gray Foxes	16,951	9,749.89
Wild Cats	15	11.50
Totals	584,184	$1,474,736.03

1948-1949

Species	*Number Taken*	*Amount Paid by Fur Dealers*
Muskrats	309,526	$537,422.40
Skunks	70,937	71,022.33
Minks	8,400	109,324.98
Oppossums	42,080	13,708.47
Beavers	1,207	25,163.20
Otters	5	81.00
Raccoons	40,224	39,336.53
Weasels	22,251	25,231.24
Red Foxes	9,042	4,798.03
Gray Foxes	10,011	4,430.49
Wild Cats	8	3.57
Totals	513,691	$830,522.24

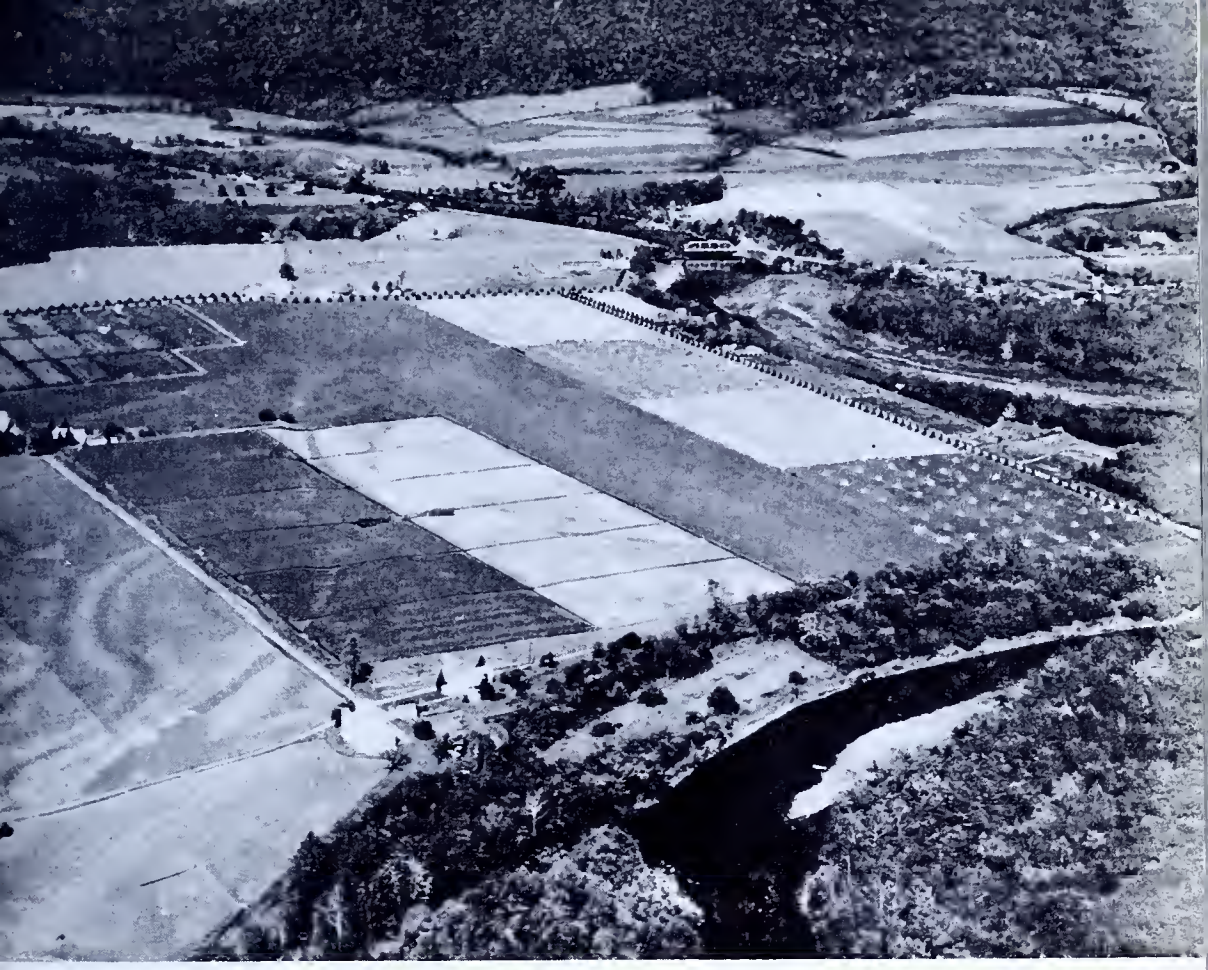
Game Propagation Division

GAME FARM OPERATIONS

The propagation program was greatly expanded. Production of both ring-neck pheasants and wild turkeys was increased to the full capacity of the game farms; approximately 50% more pheasants were purchased from commercial breeders; and the pheasant chick program was nearly doubled.

Quail production was held at about 10,000 birds a year because of experimental work being done to produce better birds for liberation.

All 21 wild turkey propagating areas were utilized, part for restocking and part for egg collecting to maintain the wildness of the present strain.



The Loyalsock Game Farm is located near Montoursville, Lycoming County. It played a major part in the expansion of the Commission's propagation program and along with two other state game farms, increased production of ringneck pheasants to full capacity.

STATE GAME FARM PRODUCTION RECORD

	Calendar Years 1948	1949
Ringneck Pheasants:		
Total number of eggs produced	318,214	337,486
Total number of eggs shipped to sportsmen	14,407	9,790
Total number of day-old chicks shipped to sportsmen	100,733	119,909
Total number of 12-16 week old birds shipped for release	31,496	26,977
Total number of mature birds shipped for release	28,405	42,002
Bobwhite Quail:		
Total number of eggs produced	36,178	33,407
Total number of eggs shipped to sportsmen	.....	.....
Total number of day-old chicks shipped to sportsmen	2,001	2,111
Total number of six-week old birds shipped to sportsmen	236	196
Total number of 12-18 week old birds shipped for release	8,985	6,100
Total number of mature birds shipped for release	5,426	5,125
Wild Turkeys:		
Total number of eggs produced (farm)	15,170	11,103
Total number of 12-week old birds shipped for release	3,000	2,500
Total nmber of mature birds shipped for release	2,514	2,942

GAME PURCHASES

"Ringneck Pleasants"—The Commission increased its purchases of ringneck pheasants. Contracts were awarded in early spring of each year for the delivery of twelve-week old birds in September and for mature birds in March.

This policy has enabled the commercial breeders, both in and out of the state, to plan their production far in advance of the delivery dates.

GAME PURCHASES 1948-1950

	Number 1948-49	*Cost*	*Avg. Cost*	*Number 1949-50*	*Cost*	*Avg. Cost*
Rabbits	39,155	$42,874.73	$1.095	60,528	$68,192.35	$1.126
Pheasants	35,015	92,004.15	2.63*	59,258	138,472.60	2.34
Snowshoe rabbits				274	959.00	3.50

* 26 extra pheasants received not figured in average cost.

LIVE TRAPPING AND TRANSFER OF WILD GAME

The transfer of rabbits from closed hunting areas to lands open to public shooting not only increased the stocking program by 70,000 rabbits; it established real human and conservation relations between the Boy Scouts, high school students and deputy game protectors who participated in the program. The Commission is deeply indebted to them for their splendid cooperation.

The 75 cents which is paid for each animal turned over to the Game Protector is the only tangible way the Commission has of stimulating interest in this undertaking.

WILD GAME TRAPPED AND TRANSFERRED

	Fiscal Year 1948-1949	*Fiscal Year 1949-1950*
Cottontail Rabbits	29,364	39,936
Ringneck Pheasants	322	281
Gray Squirrels	117	64
Raccoons	21	53

TOTAL GAME RELEASED 1948-1949

	From Game Farms	*Purchases*	*Trapped & transferred*	*Farm Game Cooperators*	*Totals*
Cottontail Rabbits	.....	39,155	29,364	.....	68,519
Ringneck Pheasants	58,185	35,015	322	10,728	104,250
Bobwhite Quail	13,915	.....	.....	.....	13,915
Wild Turkeys	5,925	.....	.....	.....	5,925
Gray Squirrels	.....	.....	117	.....	117
Raccoons	.....	.....	21	.....	21

TOTAL GAME RELEASED 1949-1950

	From Game Farms	*Purchases*	*Trapped & transferred*	*Farm Game Cooperators*	*Totals*
Cottontail Rabbits	.....	60,528	39,936	.....	100,942
Ringneck Pheasants	68,846	59,258*	281	24,613	150,942
Bobwhite Quail	10,059	.....	.....	.....	10,059
Wild Turkeys	4,322	.....	.....	.....	4,322
Gray Squirrels	.....	.....	64	.....	64
Raccoons	.....	.....	53	.....	53
Snowshoe Rabbits	.....	274	.....	.....	274

* 15,940 held over winter of which 13,884 were liberated.

DAY-OLD PHEASANT CHICK PROGRAM

The day-old pheasant chick program was nearly doubled over the preceding two-year period, 100,733 in 1948 and 119,909 in 1949 having been shipped from the game farms to interested sportsmen and farm-game cooperators.

Approximately 70% of these birds were raised in 1948 and 75% in 1949 to



The day-old pheasant chick program was nearly doubled over the preceding two-year period. More than 126,000 twelve-week old pheasants raised in sportsmen's pens such as this were restocked in open hunting territory.

twelve weeks of age or older and released on open hunting areas. Thus 126,857 pheasants, in addition to those raised by farm-game cooperators, were stocked in public coverts through the fine cooperation of sportsmen and landowners.

From all sources, a total of 382,049 pheasants was released—the highest number of pheasants ever liberated by the Commission.

RABBIT FARMS

The cottontail rabbit is probably more popular than any other game species. For that reason it was extremely difficult to meet its shooting demands even though natural propagation was supplemented by importing western stock.

The quality and quantity of the latter left much to be desired and the mortality rate after liberation ran excessively high. Very often shippers were unable to fill their contracts due to weather and other conditions, so that all areas could not be stocked regularly. Surprisingly, some of these areas produced just as good shooting as those stocked with western animals. As time elaped it became increasingly apparent that the importation of rabbits was not a paying proposition for the sportsmen. Realizing this the Commission, after some experimental work, finally evolved a new plan that has excellent possibilities for meeting the demands.

It was put into effect at a meeting on October 6, 1949, and provided for the establishment experimentally of rabbit propagation areas or small refuges on various farms in Armstrong, Blair, Clarion, Dauphin, Jefferson, Lycoming, Montgomery and Susquehanna counties. These counties were chosen because of their geographical locations.

The number of rabbit farms in any county may not exceed the number of townships in that county. Although the ideal set-up would be to have one in each township, providing suitable areas are available to produce a good population of native rabbits, it is doubtful if that would be possible. Nevertheless, there are probably 1,000 townships throughout the State having farms that measure up to the rabbit farm standards. When a good supply of native cottontails is available through this plan, it will no longer be necessary to import western rabbits.

Setting up an area is merely the legal introduction. The Commission furnishes the farmer with technical service, advice, traps and information on how he can improve the habitat on rabbits. He is also paid $1.00 for each healthy rabbit trapped and turned over to the Game Protector for distribution in the township in which the propagation area is located.

Owners of rabbit farms are eligible to receive day-old ringneck pheasant chicks under the same plan as Farm-Game Cooperators.

At the present time this program includes 85 farms with a total of 11,194 acres.

STATUS OF GAME

Bobwhite Quail—While the bobwhite has not increased to any great degree, two successive mild winters gave these birds a better foothold. When the farmer puts the wlecome mat out again by maintaining more brushy fencerows and feeding the birds in winter, their almost forgotten call will again resound o'er hill and valley. The Commission is doing all it can by trying to produce the best possible strain of birds at the Game Farm and by providing food and cover on its small game lands, but the sportsman and the landowner will have to help, too.

Ruffed Grouse—A noticeable upward trend has continued, especially where forest management practices have created good environment.

Ringneck Pheasant—These birds remain more or less stable in numbers, the harvest being supplemented annually by liberal restocking. One big problem is the mower. It is hoped to encourage more farmers to establish protected "islands" where nests are found.

Rabbits—Cottontails are more than holding their own thanks to an energetic trapping and transfer program and the development of food and cover. In addition to the animals liberated annually by the Commission, many sportsmen's associations also purchase and release thousands every year locally.

Hares—Never numerous and limited to the northcentral counties. Increased deer populations deplete their food supply.

Squirrels—Gray, black and fox remain constant from year to year but their numbers vary locally, depending upon food conditions. The black squirrel, which is only a color phase of the gray, is found chiefly in the northcentral counties; the fox squirrel is more southern and local in distribution.

Raccoon—This animal is over-abundant and continued liberal seasons and bag limits can be established without fear of endangering its status. It is hunted and trapped with equal zest.

Woodchucks—Abundant and still increasing. Even an aroused hunter interest seems not to make much of a dent in the whistlepig's population.

Hungarian Partridges—Only a very few coveys remain because habitat is not believed to be suitable. The birds simply will not take hold in Pennsylvania.



Ringneck pheasants remain relatively stable in numbers in Pennsylvania. Over 621,000 cock birds like the one above were bagged by successful hunters during the past two seasons.

Wild Turkeys—Increasing noticeably throughout their entire range due to more liberal and extensive stockings. The strain is as wild as can be maintained and even farm reared birds are almost unapproachable.

Deer—Still too many in most sections for the available food supply. Until the hunters realize that periodic antlerless seasons are important and necessary in the management program, and support these efforts to control them, we shall always have this problem on our hands—that is until the day when "Mother Nature" steps in and solves it cruelly instead of humanely.

Bears—Bruin maintains his tribe amazingly well and his numbers are constant, despite the illegal killing of too many cubs every season.

FURBEARERS

Muskrats—This animal is not as plentiful as it should be and the chances are it may be necessary to close the season on it for a year.

Minks—The mink continues to hold its own despite high market prices. The animal was never too abundant.

Otters—Extremely rare—in fact it is present only in a few counties where it manages to hold its own.

Opossums—Like the raccoon, the opossum continues to multiply and it may be necessary eventually to remove protection from it for a while at least.

Skunks—Abundant and becoming more so if that is possible. The low price paid for its fur is not sufficient to warrant its control and protection may have to be removed from it soon.

Beavers—The beaver has been holding its own ever since the first trapping season was established on this animal in 1934. Trappers vie for their valuable pelts which often sell for as much as $50 to $60.

TABLE NO. 1

SUMMARIZED FUNCTIONAL EXPENDITURES

The expenditures of the Commission during the biennium ending May 31, 1950 have been subdivided into major activity groupings as follows:

		Part of Dollar
Utilization of Land for Wildlife Management of State Game Lands, Cooperative Farm-Game Projects and other leased areas totaling 1,749,817. Also purchase of land and the payment of fixed charges in lieu of taxes	$2,556,606.81	38¼¢
Propagation of Game. Operation of game farms, purchase of game, wild game transfer, distribution of game	1,395,351.38	21¢
Protection of Wildlife. Salaries and expenses for enforcement of Game laws, assistance in enforcement of fish, dog and forest laws and numerous other field activities	1,311,798.99	19¾¢
Conservation Education. Game News, publications exhibits, motion pictures, radio broadcast, attending Sportsmen's meetings, etc.	437,185.56	6½¢
Student and Employee Training. Training programs at the Ross Leffler School of Conservation for the Commission's officers, including school maintenance, fifth Student Officer's Class which graduated May 31, 1949 and sixth class of Student Officers for one month (class enrolled May 1, 1950)	140,077.55	2¢
Bounty Payments. Bounties on noxious animals including administrative expenses relating thereto	335,203.87	5¢
Wildlife Research. Wildlife Studies to determine practical methods for developing management programs	206,389.17	3¢
Executive Office, Accounting and Office Service ($304,746.90 subdivided below):		
Accounting and Office Service. Audit of accounts and bookkeeping, personnel matters, supervision over purchases, equipment and supplies	156,418.30	2¼¢
Hunting Licenses. Including tags, application reports	92,428.55	1½¢
Executive Office, Administration. Salaries and expenses of Executive Director, and expenses of Commissioners	55,900.05	¾¢
Totals	$6,687,360.53	100¢

HOW THE GAME FUND DOLLAR WAS USED

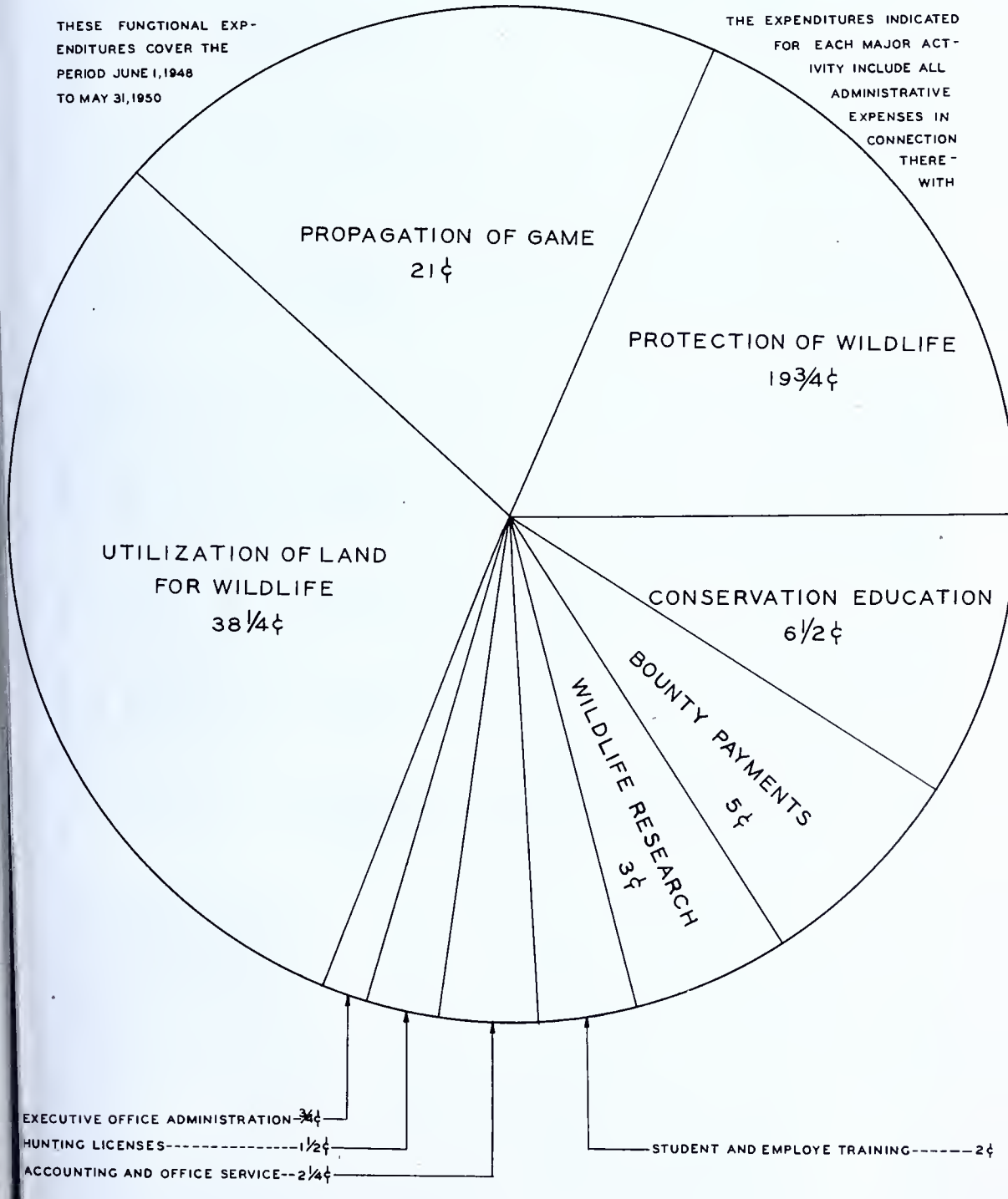


TABLE No. 2. PENNSYLVANIA GAME COMMISSION STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES—FISCAL YEAR JUNE 1, 1948 TO MAY 31, 1949

REVENUE

Cash in State Treasury June 1, 1948, against which no requisitions were drawn		$1,746,571.58*
Receipts June 1, 1948 to May 31, 1949:		
Net Revenue from Hunters' Licenses	$2,037,917.34	
Game Law Fines	148,925.80	
Special Game Permits	17,503.00	
Interest on Deposits	17,251.31	
Forest Products from Game Lands	92,307.59	
Skins Sold	4,696.83	
Unserviceable Property	4,829.65	
Rentals	11,544.47	
Publications	29,699.31	
Federal Aid Funds	254,882.29	
Miscellaneous Revenue	3,478.99	
Total Receipts	$2,623,036.58	
Add, Bounty Account refunded to State Treasury during Fiscal Year	73,424.00	
Amount credited to Game Fund during year		2,696,460.58
Total credits during year, plus balance at June 1, 1948		$4,443,032.16

EXPENDITURES BY FUNCTIONS

	Executive Office and Accounting and Bud.	Propagation and Dist.	Research and Planning	Land Titles and Records	Land Operations	General Field Operations	Predator Control and Claims	Training	Public Relations	Total
Salaries (excluding small capital and other charges)	$60,424.10	$65,610.63	$39,663.12	$8,227.03	$171,681.16	$307,563.48	$8,669.00	$41,747.10	$67,877.38	$771,463.00
Traveling Expenses of Salaried Employes (excluding small capital and other charges)	2,862.60	12,675.65	12,895.82	1,160.80	51,740.51	129,404.06	65.04	18,362.93	18,907.91	248,075.32
Deputy Game Protectors:										
Wages $25,935.49 / Expenses 14,799.56	.....	.....	.....	.....	.....	40,735.05	.....	.....	.....	40,735.05
Cooperative Farm-Game Program (Total cost)	.....	10,728.00	.....	19,890.58	171,865.58	.....	.....	.....	.....	202,484.16
Labor (Land Management and other field operations)	.....	.....	.....	.....	194,513.58	50,821.43	.....	.....	.....	245,335.01
Labor (Game Farms and other functions)	6,214.04	109,595.85	21,144.19	3,535.07	.....	.....	3,110.68	10,210.38	5,465.10	159,275.31

Purchase of Game	.....	134,878.88	.....	.....	.....	.....	.....	.....	.....	134,878.88
Rabbit Trapping and Wild Game Transfer	.....	28,916.40	.....	.....	.....	.....	.....	.....	.....	28,916.40
Feed (For Game Farms and game in the wild)	.....	109,587.95	250.00	.....	.....	8,744.54	.....	.....	41.92	118,624.41
Express and Cartage	3.40	1,179.51	4.76	75.18	2,172.42	2,181.74	61.19	323.87	758.54	6,760.61
Purchase of Lands (title and survey included)	.....	.....	.....	72,240.71	.....	.....	.....	.....	.....	72,240.71
Fixed Charges in Lieu of Taxes	.....	139.99	.....	.....	42,646.82	.....	.....	.....	.....	42,786.81
Building and Construction (Mostly on Game Farms)	.....	57,428.88	.....	.....	13,464.01	.....	.....	4,668.17	250.00	75,811.06
Repairs to Buildings, Grounds and Equipment by Contract	284.65	1,462.10	35.00	123.33	6,926.56	131.50	26.77	511.85	887.80	10,389.56
Equipment (Mostly for land management and Game Farms)	2,548.36	14,939.88	1,358.36	1,677.44	83,682.21	17,226.77	.....	2,315.93	5,916.41	129,665.36
Miscellaneous Supplies	1,351.83	44,217.79	5,532.98	433.08	93,087.41	17,863.10	206.24	10,507.88	17,125.77	190,326.08
Motor Supplies	943.60	8,371.38	840.36	292.53	13,653.24	10,070.61	18.62	704.00	1,676.17	36,570.51
Light, Power and Fuel	.....	6,959.37	.....	30.93	308.19	233.35	.....	1,372.84	1,253.73	10,158.41
Insurance	458.92	835.65	202.93	150.53	2,952.55	1,251.82	39.29	134.86	934.58	6,961.15
Postage, Telephone and Telegraph	9,266.13	1,493.97	214.03	682.38	8,759.14	8,789.70	1,526.90	547.91	3,329.69	34,609.85
Rental of Equipment, Offices, Auto Storage, etc.	541.14	5,307.32	895.11	1,281.74	37,360.91	6,827.23	301.14	.....	2,697.33	55,211.92
Bounty Payments and Grants	.....	.....	6,000.00	.....	.....	.....	167,077.00	.....	.....	173,077.00
Refunds of Receipts	20.00	.....	.....	.....	.....	1,326.00	.....	.....	.....	1,346.00
Fees: Artists, Attorneys, Medical, Taxidermy, etc.	.....	62.50	701.50	226.41	549.55	671.60	.....	1,726.57	17,079.86	21,017.99
Bear Damage Claims	.....	.....	.....	.....	.....	.....	1,335.95	.....	.....	1,335.95
Predator Control Activities (Field)	.....	.....	.....	.....	.....	.....	33,394.17	.....	.....	33,394.17
Other Maintenance Services and Expenses	701.72	93.94	21.79	90.74	574.02	961.99	123.75	874.99	1,246.92	4,689.86
Newspaper Advertising	5,982.37	.....	.....	.....	999.17	.....	.....	.....	219.50	7,201.04
Printing, Binding and Paper	5,860.98	1,927.06	353.08	618.87	2,155.52	2,139.40	725.99	278.87	87,468.87	101,528.64
Printing Hunters' Licenses, Tags and Misc. Forms—(Through Department of Revenue)	46,861.79	.....	.....	.....	.....	.....	.....	.....	.....	46,861.79
Contributions to State Employes' Retirement System—(Through Department of State)**	1,723.48	2,218.63	1,130.74	757.00	5,387.07	8,776.90	676.06	1,197.39	1,937.73	23,805.00
TOTAL EXPENDITURES	$146,049.11	$618,631.33	$91,243.77	$111,494.35	$904,479.62	$615,720.27	$217,357.79	$95,485.56	$235,075.21	$3,035,537.01

Cash Balance in State Treasury to credit of "Game Fund" May 31, 1949 ..... $1,407,495.15**

* Treasury Accounts will show $1,917,483.92 because requisition for payment amounting to $170,912.34 were drawn by the Commission and included in the report of expenditures for the previous year but not paid until after May 31, 1948.

** Excludes $93,000 War Bond Investment, which can be converted into cash when necessary and $6,576 in Bounty Account for payment of checks issued but not cleared.

TABLE No. 3. PENNSYLVANIA GAME COMMISSION STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES—FISCAL YEAR JUNE 1, 1949 TO MAY 31, 1950

REVENUE

Cash in State Treasury to credit of "Game Fund" June 1, 1949	$1,407,495.15	
Add: Advancement for the payment of bounties (to pay checks issued during previous year which did not clear bank until after June 1, 1949)	6,576.00	$1,414,071.15
Receipts June 1, 1949 to May 31, 1950:		
Hunters' Licenses (After deducting the Issuing Agents' Commission)	$2,901,432.36	
Game Law Fines	197,364.10	
Special Game Permits (Fur Dealers, Taxidermists, Game Propagators, etc.)	17,710.00	
Interest on Deposits	13,016.00	
Sale of Forest Products from Game Lands	68,006.05	
Sale of Animal Skins	8,281.86	
Sale of Unserviceable Property and Equipment	590.56	
Rentals from Commission-owned Buildings and for Rights-of-Way, etc.	13,876.22	
Sale of Publications	37,237.91	
Federal Aid for Wildlife purposes (75% of cost of approved projects)	691,693.23	
Miscellaneous Items	11,527.02	
Total Receipts from All Sources		$3,960,735.31
Total Funds Available During Year		$5,374,806.46

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive Office and Accounting and Ser.	Game Propagation	Wildlife Research	Land Utilization	Wildlife Protection	Bounty Claims	Conservation School	Conservation Education	Total
Salaries	$72,605.39	$75,904.21	$58,630.40	$236,385.54	$343,813.27	$8,590.00	$21,153.15	$68,788.34	$885,870.30
Traveling Expenses of all kinds, including auto mileage	4,881.26	16,233.21	19,333.91	72,167.38	134,099.14	45.04	5,681.08	15,713.18	268,154.20
Deputy Game Protectors: Wages $53,946.88 Expenses 32,633.01	.....	.....	.....	.....	86,579.89	.....	.....	.....	86,579.89
Cooperative Farm-Game Program (Total cost)	.....	24,785.00	.....	210,247.56	.....	.....	.....	.....	235,032.56
Wages (Land Management, etc.)	.....	.....	20,156.50	435,986.27	40,578.75	.....	.....	.....	496,721.52
Wages (Game Farms, etc.)	7,022.73	133,790.47	.....	.....	.....	2,820.31	6,370.73	5,433.04	155,437.28
Purchase of Game	.....	207,623.95	.....	.....	.....	.....	.....	.....	207,623.95

Rabbit Trapping and Wild Game Transfer	.....	63,593.71	.....	.....	.....	.....	.....	.....	63,593.71
Feed (For Game Farms and game in the wild)	.....	123,103.42	116.00	26,653.22	.....	.....	.....	.....	149,872.64
Express and Cartage	476.37	1,408.87	456.68	2,502.37	1,884.41	18.82	481.32	265.56	7,494.40
Purchase of Lands (title and survey included)	.....	.....	.....	87,336.70	.....	.....	.....	.....	87,336.70
Payments in Lieu of Taxes to local taxing units	.....	140.04	.....	43,517.09	.....	.....	.....	.....	43,657.13
Building and Construction (Mostly on Game Farms)	.....	51,799.23	.....	9,511.08	.....	.....	370.00	.....	61,680.31
Repairs to Buildings, Grounds and Equipment by Contract	293.88	463.86	.....	2,801.09	84.53	4.00	572.09	384.09	4,603.54
Equipment (Mostly for land management and Game Farms)	2,340.50	17,992.43	73.50	69,948.74	10,371.36	256.66	397.09	839.11	102,219.39
Miscellaneous Supplies	2,258.19	32,623.58	1,335.69	142,536.59	19,462.05	86.89	5,325.40	9,308.58	212,936.97
Motor Supplies	1,355.65	8,088.30	274.17	23,644.19	7,418.42	10.55	705.23	941.80	42,438.31
Light, Power and Fuel	.....	6,566.43	.....	517.95	266.36	.....	1,150.90	1,583.54	10,085.18
Insurance	324.36	683.40	135.02	4,490.64	1,198.41	28.09	100.38	196.95	7,157.25
Postage, Telephone and Telegraph	11,826.62	1,016.74	241.59	11,999.97	12,286.30	471.08	363.81	4,728.60	42,934.71
Rental of Equipment, Offices, Auto Storage, etc.	518.66	7,318.80	762.29	142,338.32	6,395.84	492.99	48.00	3,223.61	161,098.51
Bounty Payments and Grants	.....	.....	6,000.00	.....	.....	104,635.00	.....	3,409.75	114,044.75
Refunds of Receipts	55.15	.....	.....	5.10	3,946.67	.....	.....	.....	4,006.92
Fees: Artists, Attorneys, Medical, Taxidermy, etc.	.....	14.00	4,635.00	3,673.80	329.50	.....	266.00	10,608.09	19,526.39
Bear Damage Claims	.....	.....	.....	.....	1,611.37	.....	.....	.....	1,611.37
Other Maintenance services and Expenses	982.80	74.56	18.33	586.51	1,265.50	150.39	555.04	1,302.76	4,935.89
Newspaper Advertising	41.90	.....	.....	251.20	7,461.02	.....	.....	.....	7,754.12
Printing, Binding and Paper	5,488.46	195.22	832.92	3,561.59	4,469.97	202.26	269.15	72,797.30	87,816.87
Printing Hunters' Licenses, Tags and Misc. Forms (Through Department of Revenue)	45,566 76	.....	.....	.....	.....	.....	.....	.....	45,566.76
Contributions to State Employes' Retirement System—(Through Department of State)	2,654.11	3,300.62	2,143.70	9,969.94	12,555.96	34.00	782.62	2,586.05	34,027.00
Replacement Checks (Through Department of Treasury)	5.00	.....	.....	.....	.....	.....	.....	.....	5.00
TOTAL EXPENDITURES	$158,697.79	$776,720.05	$115,145.70	$1,540,632.84	$696,078.72	$117,846.08	$44,591.99	$202,110.35	$3,651,823.52

Cash Balance in State Treasury to credit of "Game Fund" May 31, 1950 ..... $1,722,982.94*

* Excludes $93,000 War Bond Investment which can be converted into cash when necessary.

TABLE No. 4. STATE GAME LANDS—ACREAGE ACQUIRED YEARLY, COST AND GENERAL AVERAGES

3-5

MAY 31, 1950

Fiscal Year	Acreage		Consideration Paid			
					Average Per Acre	
	Conveyed During the Year	Total Conveyed to End of Year	Conveyed During the Year	Total to End of the Year	Conveyed During the Year	Conveyed to End of Year
1920-21	23,135.55	23,135.55	$61,379.34	$61,379.34	$2.65	$2.65
1921-22	15,147.66	38,283.21	43,712.68	105,092.02	2.88	2.75
1922-23	5,128.40	43,411.61	10,339.30	115,431.32	2.02	2.66
1923-24	11,780.43	55,192.04	40.251.13	155,682.45	3.42	2.82
1924-25	30,827.23	86,019.27	88.343.47	244,025.92	2.87	2.84
1925-26	.....	86,019.27	.....	244,025.92	...	2.84
1926-27	6,621.35	92,640.62	40,913.10	284,939.02	6.18	3.08
1927-28	9,900.75	102,541.37	39,746.20	324,685.28	4.01	3.17
1928-29	42,865.93	145,407.30	171,493.43	496,178.71	4.00	3.41
1929-30	28,144.10	173,551.40	120,680.53	616,859.24	4.29	3.55
1930-31	69,837.10	243,388.50	266,394.32	883,253.56	3.81	3.62
1931-32	76,753.27	320,141.77	288,008.79	1,171,262.35	3.75	3.66
1932-33	44,630.70	364,772.47	167,195.45*	1,338,457.80	3.75	3.67
1933-34	61,802.30	426,574.77	202,573.37*	1,541,031.17	3.28	3.61
1934-35	38,847.20	465,421.97	133,677.30*	1,674,708.47	3.44	3.60
1935-36	41,984.40	507,406.37	146,660.45*	1,821,368.92	3.49	3.59
1936-37	45,036.85	552,443.22	174,691.95*	1,996,060.87	3.88	3.61
1937-38	30,914.50	583,357.72	147,509.57*	2,143,570.44	4.77	3.67
1938-39	20,187.20	603,544.92	100,521.87*	2,244,092.31	4.98	3.72
1939-40	33,135.96	636,680.88	141,326.47*	2,385,418.78	4.27	3.75
1940-41	25,128.85	661,809.73	133,488.87	2,518,907.65	5.31	3.81
1941-42	38,496.67	700,306.40	185,446.80*	2,704,354.45	4.82	3.86
1942-43	26,738.18	727,044.58	99,554.63	2,803,909.08	3.72	3.85
1943-44	22,953.30	749,997.88	90,647.19*	2,894,556.27	3.95	3.86
1944-45	31,618.40	781,616.28	81,710.73*	2,976,267.00	2.58	3.81
1945-46	37,613.40	819,229.68	83,203.41	3,059,470.41	2.21	3.72
1946-47	22,767.30	841,996.98	95,007.61*	3,154,478.02	4.17	3.74
1947-48	15,599.43	857,596.41	43,018.89	3,197,496.91	2.75	3.73
1948-49	18,607.00	876,203.41	57,056.09	3,254,553.00	3.07	3.71
1949-50	4,234.30	880,437.71	14,460.95	3,269,013.95	3.42	3.72

* These figures do not correspond with Departmental Financial Statements, since certain grantor's settlement checks were issued within the fiscal year, although final settlements were not made until later.

TABLE No. 5. STATE GAME LANDS—ACREAGE IN EACH UNIT BLOCK

MAY 31, 1950

Serial No.	County	Acres	Serial No.	County	Acres
12	Bradford	23,168 2	42	Westmoreland	7,700.8
13	Sullivan	37,197.1	43	Chester-Berks	1,143.5
14	Cameron-Elk	13,674.5	44	Elk-Jefferson	23,994.9
24	Forest-Cameron	8,299.9	45	Venango-Clarion	3,303.8
25	Elk	23,136.2	46	Lancaster	1,759.8
26	Bedford-Blair-Cambria	9,228.6	47	Venango	2,060.0
28	Elk-Forest	9,142.7	48	Bedford	7,249.3
29	Warren	9,830.61	49	Bedford-Fulton	5,131.9
30	McKean	11,572.03	50	Somerset	3,168.1
31	Jefferson	3,948.16	51	Fayette	7,668.9
33	Centre	16,585.2	52	Lancaster-Berks	1,470.1
34	Clearfield-Elk	8,800.0	53	Fulton	4,552.3
35	Susquehanna	7,612.5	54	Jefferson-Elk	21,267.1
36	Bradford	12,794.8	55	Columbia	2,231.5
37	Tioga	12,933.0	56	Bucks	1,700.9
38	Monroe	5,249.5	57	Wyoming-Luzerne	33,141.2
39	Venango	7,932.18	58	Columbia	11,229.1
40	Carbon	5,762.2	59	Potter-McKean	6,656.2
41	Bedford	1,568.0	60	Centre	6,767.1

Serial No.	County	Acres
61	McKean	8,142.2
62	McKean	520.5
63	Clarion	2,770.4
64	Potter	7,331.6
65	Fulton	3,783.2
66	Sullivan	6,219.4
67	Huntingdon	1,849.7
68	Lycoming	3,034.3
69	Crawford	3,415.9
70	Wayne-Susquehanna	5,847.9
71	Huntingdon	4,121.8
72	Clarion	2,019.0
73	Bedford-Blair-Huntingdon	15,355.1
74	Clarion-Jefferson	6,043.4
75	Lycoming	25,291.7
76	Franklin	3,812.7
77	Clearfield	3,038.0
78	Clearfield	720.7
79	Cambria	2,158.2
80	Lebanon-Berks-Schuylkill	7,278.2
81	Huntingdon	3,408.3
82	Somerset	1,347.7
83	York	760.8
84	Northumberland-Schuylkill	7,807.7
85	Crawford	990.7
86	Warren	13,946.6
87	Clearfield	1,123.8
88	Perry-Juniata	6,835.6
89	Clinton	10,571.2
90	Clearfield	3,957.5
91	Lackawanna-Luzerne	10,512.8
92	Centre	5,030.5
93	Clearfield	4,876.1
94	Clearfield	2,108.4
95	Butler	2,320.6
96	Venango	3,474.7
97	Bedford	5,947.3
98	Clearfield	1,180.3
99	Huntingdon	2,922.1
100	Centre	3,775.6
101	Erie-Crawford	3,372.3
102	Erie	324.6
103	Centre	8,632.5
104	Bedford-Somerset	5,111.0
105	Armstrong	1,303.0
106	Berks-Schuylkill	3,704.4
107	Juniata-Mifflin	3,869.8
108	Cambria	10,524.6
109	Erie	1,422.5
110	Berks-Schuylkill	7,754.6
111	Fayette-Somerset	6,890.7
112	Huntingdon	1,298.5
113	Mifflin	534.2
114	Lycoming	2,310.8
115	Montour-Northumberland	1,243.0
116	Pike	4,024.0
117	Washington	2,975.6
118	Huntingdon-Blair	4,325.7
119	Luzerne	7,969.2
120	Clearfield-Cambria	3,080.6
121	Huntingdon	1,663.2
122	Crawford	1,771.5
123	Bradford	720.9
124	Franklin-Fulton	5,387.1
126	Lycoming	591.9
127	Monroe	21,509.1
128	Fulton	1,569.1
129	Carbon-Monroe	3,518.4
130	Mercer	945.6
131	Huntingdon	187.5
132	Schuylkill	1,246.9
133	Lycoming	2,008.5
134	Lycoming	6,539.1
135	Lackawanna	2,808.2
136	Lancaster	91.0
137	Armstrong	1,113.8
138	Fayette	2,418.0
139	Bucks	164.3
140	Susquehanna	1,168.6
141	Carbon	5,919.6
142	Bradford	368.6
143	Warren	7,622.4
144	Crawford	422.6
145	Lebanon	2,970.0
146	Crawford	495.8
147	Blair	4,398.2
148	Lawrence-Beaver	369.0
149	Luzerne	1,126.6
150	Lawrence	504.6
151	Lawrence	718.6
152	Crawford	499.4
153	Indiana	783.1
154	Erie	1,196.0
155	Erie	224.0
156	Lancaster	1,986.4
157	Bucks	1,579.8
158	Cambria	1,611.4
159	Wayne	7,435.3
160	Schuylkill	245.2
161	Erie	234.6
162	Erie	206.2
163	Erie	183.1
164	Butler	399.3
165	Northumberland	1,104.8
166	Blair	4,290.8
167	Erie	568.7
168	Northampton	1,401.1
169	Cumberland	941.2
170	Perry-Cumberland	839.3
171	Juniata-Perry	941.8
172	Bradford	722.3
173	Beaver	1,063.1
174	Indiana	3,052.7
175	Susquehanna	736.2
176	Centre	5,838.5
177	Allegheny	65.8
178	Lawrence	163.8
179	Greene	1,067.6
180	Pike	1,405.8
181	York	563.3
182	Berks	269.8
183	Pike	2,778.4
184	Cambria	2,178.8
185	Indiana	574.4
186	Monroe	967.2
187	Luzerne	6,900.3
188	Snyder	1,138.7
189	Beaver	321.7
190	Erie	326.3
191	Erie	702.6
192	Erie	321.5
193	Union	295.7
194	Snyder	622.2
195	Jefferson	1,035.0
196	Bucks	258.7
197	Warren	1,027.8
198	Blair-Cambria	3,196.4
199	Crawford	703.8
200	Crawford	154.1
201	Union	269.4
202	Crawford	506.7
203	Allegheny	1,245.8
204	Potter	4,305.8
205	Lehigh	1,263.9
206	Luzerne	977.8
207	Luzerne	832.8
208	Tioga	7,563.0
209	Pike	4,162.0
210	Dauphin	11,061.2
211	Dauphin-Lebanon	29,465.3
212	Snyder	424.2
213	Crawford	2,579.7
214	Crawford	556.6
215	Juniata	1,263.4
216	Lawrence	324.9
217	Lehigh	1,219.43
	Totals—194 Blocks	880,437.71

Project No.	County	Township	Acreage
158	Centre	Gregg	6,261.0
159	Cumberland	Dickinson-Penn	3,487.0
160	Westmoreland	Fairfield	1,331.0
161	Fayette	Luzerne-German-Redstone	1,438.0
162	Beaver	Raccoon-Greene	1,519.0
163	Cambria	Adams	1,765.0
164	Susquehanna-Wyoming	Aubern-Lemon	5,148.0
165	Cambria	Munster-Cambria	2,452.0
166	Mercer	Greene-West Salem	3,936.0
167	Armstrong	Cowanshannock-Boggs	9,357.0
168	Washington	Smith	3,126.0
169	Somerset	Upper Turkeyfoot	2,798.0
170	Wayne	Salem-Lake	2,200.0
171	Clarion	Redbank-Limestone	3,820.0
172	Allegheny-Washington	Findley-Robinson	3,006.0
173	Crawford	Wayne-East Fairfield	2,241.0
174	Crawford	Randolph-Wayne	5,106.3
175	Jefferson	Oliver	5,409.0
176	Westmoreland	Ligonier	1,923.5
177	Indiana	East Wheatfield	1,788.5
178	Wyoming	Washington	2,018.0
179	Monroe	Eldred	6,374.0
180	Lycoming	Eldred-Hepburn	3,722.0
181	Berks	Exeter	1,012.0
182	Venango	Plum-Jackson	9,695.0
183	Erie	McKean	4,102.3
184	York	Franklin-Washington	1,306.0
158	Totals		767,729.3

TABLE No. 7. SPECIAL PRESERVES

3-11
MAY 31, 1950

DOG TRAINING PRESERVES

Serial Number	Location: County	Location: Township	Acres	Class of Dogs Which May be Trained	Hunting Limitations
2	Montgomery	Upper Dublin Whitemarsh	160	Retriever dogs, including Spaniels, and non-slip retrievers. Properly licensed field trials may be conducted.	No ordinary hunting permitted. Commercially propagated and tagged pheasants, as well as native cottontail rabbits may be killed in connection with dog training.
3	Lycoming (near Haneyville)	McHenry	800	All classes of hunting dogs. Field trials may be conducted.	No small game may be hunted or killed. Deer and bears may be killed in season.
4	Forest Clarion	Green Farmington	985	Bird dogs only. Field trials may be conducted.	No small game or bears may be hunted or killed. Deer may be killed in season.
6	Washington	North Franklin	578	All classes of dogs. Field trials may be conducted.	No game of any kind may be hunted or killed.
7 Black Forest Grouse Trial Area	Lycoming (near Pump Station)	Brown	715	All classes of dogs, but especially grouse dogs. Field trials may be conducted.	No small game may be hunted or killed. Deer and bears may be killed in season.
8	Forest	Jenks	1,000	Bird dogs only. Field trials may be conducted.	No small game may be hunted or killed. Deer and bears may be killed in season.
9	Forest	Jenks	1,000	Bird dogs only. Field trials may be conducted.	No small game may be hunted or killed. Deer and bears may be killed in season.
11	York	Fairview	108	All classes of dogs. Field trials may be conducted.	No small game may be hunted or killed. Deer and bear may be killed in season.
8		Total	5,346		

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HUNT Safely..



RETURN SAFE.

Ned Smith

PENNSYLVANIA

Game News

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EMBER 1950

10 CENTS



THE STORY BEHIND THE COVER

With deer seasons drawing hundreds of thousands of hunters into Penn's Woods, the work of a Pennsylvania Game Protector never ends. From dawn to dusk and late into the night these protectors, assisted by their deputies, are patrolling their districts to protect our wildlife and to serve the people of their State and those who come from outside our borders to enjoy the thrilling sport of hunting.

This month these protectors will be seen wherever whitetails are hunted performing their many duties related to conservation. They may be found organizing and leading search parties for lost hunters, delivering illegally killed deer to hospitals, orphanages or other charitable institutions, answering countless questions for those who want to hunt according to the law and to good sportsmen's ethics, or checking tagged deer to obtain information on the 1950 deer kill.

Like Game Protector George E. Sprankle, of Polk, shown on this month's cover inspecting deer shot last year in Clearfield County, these guardians of our wildlife know that deer season means plenty of hard work with little rest for them. But deer season also means great sport and enjoyment for the people of our State, especially for parties of hunters like that shown with Game Protector Sprankle—a family group of Carl N. Schrader, his son, Eugene, and his brother, Glen, all of Lester, Pa.

Game Protectors are the true friends of our wildlife and every good sportsman, doing a tough job to preserve the American heritage of sports afield.

HELP YOUR GAME PROTECTOR PRESERVE OUR SPORT

PENNSYLVANIA Game News

Published Monthly
(Semi-Monthly in September and March)
by the
Pennsylvania Game Commission

Vol. XXI No. 9

Commonwealth of Pennsylvania

JAMES H. DUFF, GOVERNOR

★

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PENNSYLVANIA GAME NEWS

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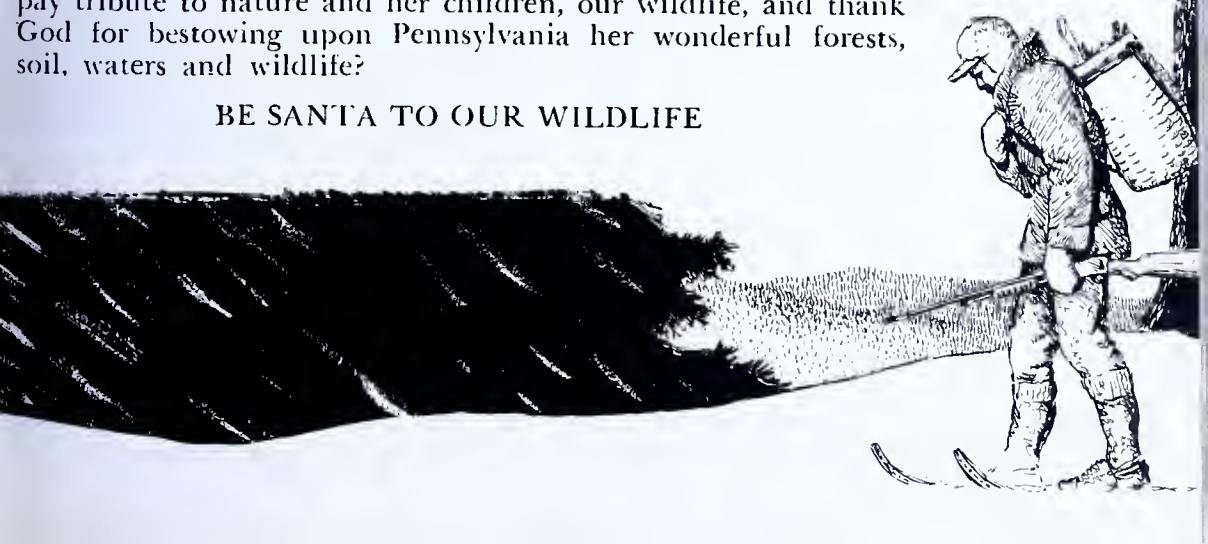
Conservation at Christmas Time

In many Pennsylvania homes this month, Christmas will reflect an appreciation of the great outdoors. Not content with the artificiality of the Yuletide season, many people of our State will arrange their Christmas decorations around natural and time-honored motifs.

From our Pennsylvania woodlands will come native spruce, pine, and hemlock trees and greens, traditionally a part of the Yuletide spirit. Pine cones, dipped in scarlet and silver, will brighten many a hearth side while painted native reeds and grasses will add a touch of beauty to the natural setting. Garlands of ground pine festooned from wall to wall, sprays of native holly, Pennsylvania hardwoods crackling in fireplaces form part of a real Christmas scene. And many a holiday table will be laden, as for years beyond recall, with fruits of a wild harvest—nuts and berries, game meat from Penn's woods and fields—venison, wild turkey, pheasant—and other good things to eat.

Some knights of nature and those with conservation and Christianity in their hearts, will decorate living Christmas trees, carefully selected and removed from their birth sites; later, after their Christmas use is past, they will replant them carefully and give them a chance to grow again. Many more will use cut trees, purchased in local markets, as material with which to provide feeding shelters for our wildlife when the New Year marks an end to their indoor use. Cold weather hikers will take some scratch grain or other feed along to leave for a pheasant or a quail, a carrot or apple for the cottontail, or an ear of corn for the squirrel. And should not we all pause and pay tribute to nature and her children, our wildlife, and thank God for bestowing upon Pennsylvania her wonderful forests, soil, waters and wildlife?

BE SANTA TO OUR WILDLIFE





A Thanksgiving Message

by Thos. D. Frye

RECENTLY a widely-travelled friend of mine, who is neither a hunter nor a fellow game administrator told me that in no other state in the Union does he hear so many people, from all walks of life, talk so much about hunting as do the residents of Pennsylvania.

That it is possible in our highly industralized state, with almost eleven million people, to produce an annual crop of wildlife sufficient to interest at least a million hunters, cannot be imagined by many people living outside the Keystone State.

We are indeed fortunate that Pennsylvania, with its diversity of terrain, provides suitable habitat for such a wide variety of forest game, farm game, migratory waterfowl, and shore birds. The various cover types, however, were in existence at the time the Game Commission was created to bring back the wildlife resources of a badly "shot out" state. God blessed Pennsylvania with a variety of habitat well suited for its many kinds of wildlife. But the wildlife we have today is in a great part, due to the foresight, planning and efforts of the men, past and present, who performed their duty, fearlessly, in spite of protests from individuals and groups who placed their selfish desires above the needs to restore and perpetuate that which we have and enjoy today.

But, like our liberty, it must be secured through sacrifice and determination to protect it at all costs. The danger is never past. The fight never ends to retain and protect this wildlife heritage for us and the coming generations. Eternal vigilance, coupled with a firm determination to do whatever is necessary, is the

only path that leads to the success in wildlife restoration for the benefit of all the people or Pennsylvania.

The last two years have seen so many improvements in technique and policy, and such an expansion in effort, that the results are recognized not only from their actual increase in wildlife population but as a pattern or guide which other states may follow. Pennsylvania has long been recognized as a leader in wildlife management and restoration. Today it has a firmer than ever grasp on that lead position.

Reorganization

Within the last two years every change made has had its relative importance—its place in the over-all plan. High on the list was the complete reorganization, and streamlining of the Commission's field forces, its administrative divisions and executive officers. Like building a house, when completed, one will usually remark "If building it again we would change this or that." Not so with our reorganization. It is fundamentally sound. It not only meets our present day needs, but stands as a firm foundation upon which we can either expand or contract when necessary.



Pay Adjustments

Very important to the morale of our employes, who were long underpaid, was the development and adoption of a classification and compensation system that placed them on a pay level with other state employes. Not only have rates of pay been adjusted to conform with the new pay scale, but serious inequalities of long standing have been corrected. We now have a pay scale, which includes rewards for meritorious service, being operated to create incentives for all to perform outstanding work.

Current Financial Statements

A chronic criticism was the delay in publishing our annual financial statements. During 1948 the 1947-48 fiscal year statement, which ends May 31, 1948, was published in the December issue of the Game News. In 1949 the corresponding statement was published in the September issue, three months earlier than the previous year. This year, 1950, the statement was published in the August issue—the earliest issue in which it can be published.

The New Game News

Another objective was reached in September. The GAME NEWS has not only been modernized in size and content, but expanded to be more practical, interesting, appealing and beneficial as a conservation education publication. A special issue, such as the one released during September on the White-tailed Deer, is in itself worth the subscription price of the magazine. Other special numbers will be issued from time to time. They too will be interesting and beneficial. Proof, that we are proud to lay before all the record and accomplishments of the Commission, is evidenced by the inclusion with the November issue of the GAME NEWS, an addendum which is the Biennial Report of the Commission (June 1, 1948 to May 31 1950). Previously, the Biennial Report had been printed and distributed in limited numbers. Now every person who receives the GAME NEWS can learn what the Commission has done and how it has used the Game Funds during the last two years. We

are striving to make our record available to every sportsman and the public generally.

Weekly Newsletters

The result of a meeting at the Ross Leffler School of Conservation with newspaper columnists was the issuance of a Weekly Newsletter, the information from which will be found in the Outdoor columns the length and breadth of the state. The Newsletter reports facts and interesting happenings, without including anything that could be associated with propaganda. We want it kept on that plane. The newspapermen wanted it. We furnished it. Through them it becomes available to all. May we here thank those columnists for their interest, accuracy in reporting, and their fine cooperation. In this endeavor we believe that we are helping the columnists perform a fine public service of lasting benefit to everybody.

Food and Cover for Wildlife

But apart from such items that might be considered the business or administrative side of our activities will be found many field improvements, some of which are only beginning to be felt or seen. For example, our food-and-cover-for-wildlife program has been accelerated and expanded from a small beginning to one of enormity. The visible record of accomplishments and progress are everywhere and the invitation is always extended to go and see for yourself. It's heart warming to see and realize what has been accomplished for the benefit of our wildlife.

Pheasant Chick Program

Our ringneck pheasant chick program has not only been practically doubled, but the new policy of releasing only the cocks prior to and in season and holding the hens for spring release is proving its effectiveness. This year its effect should be felt, and even more next year.

Wild-Wild Turkeys

The wild turkey program, with its increase in propagation and distribution each year, coupled with the wilding areas for "educating" the young toms, and the propagation areas for keeping the strain wild, is proving remarkably successful. Who will deny that wild turkey hunting in Pennsylvania is improving, or that it is one of the grandest sports? Who would deny the wild turkey its place as the prize game bird, or the hunter his thrill when he bags one? Wild turkey hunting in Pennsylvania is becoming a major sport because the Game Commission refused to accept failure as inevitable in the days when success seemed doubtful and many said "It can't be done." But it is being done and very successfully. Where can you find wild turkey hunting like we have in Pennsylvania today?



Chestnuts! ! !

My greatest inspiration in years was when a group visited one of our game land areas and saw hundreds of blight resistant chestnut trees prolifically bearning nuts, equal in size, form and flavor, to those grand old native chestnuts that were wiped out



The return of the chestnut to Pennsylvania is tremendously encouraging. Here blight resistant trees, developed from Asiatic strains after much experimentation and hard work, are shown growing on State Game Lands. Nuts from these trees are being used for plantings throughout the State.

by the blight calamity a quarter century ago. I picked chestnuts again, like when a boy, and each nut will be planted in our small nurseries of which we already have ten, and given a chance to grow into trees to bear nuts to produce more trees, and on and on. Don't tell me that we "might" have chestnuts again on the hills and valleys of Pennsylvania. We have them now, and with the help of sportsmen, like one who came into my office and donated some nuts, all can enjoy them in the not too distant future. Nothing could please me more than to see the widespread return of chestnuts in Pennsylvania. Not only are we gathering all the chestnuts to plant, but we are buying large quantities so we can make seedlings available to cooperating farmers, sportsmen and others all over Pennsylvania. It's tremendously encouraging!

Rabbit Farms

Our rabbit farms, already established to the total of almost one hundred within 8 counties in every section of the State, will begin to show the effect of our efforts to produce home-grown cottontails for release in Pennsylvania. This winter, for the first time, there will be some trapping of rabbits from these areas, and, if the experiment proves satisfactory, a network of rabbit farms will be established throughout the state.

Waterfowl

Waterfowl, because they are not state-wide in their migratory habits, have not previously received their due share of consideration. Their restoration is now a major program. One of our former division supervisors, who is a wild fowl enthusiast,

has been placed in responsible charge of the important task of "bringing the ducks back to Pennsylvania."



Our Bobwhites

Then there is the quail program. Another case where trial after trial produced little but discouragement, until we put them into hardening pens located in natural habitat to educate them to the ways of the wild and natural food before actually releasing them. Indications pointing to success will only be determined by further study and more work.

The Furbearers

Fur-bearing animals are receiving their share of consideration, and management practices are being utilized to protect both the important fur industry and the sport of trapping.

Too Numerous to Mention

These accomplishments are only a few highlights. Space does not permit the discussion of others, such as our improved wildlife exhibits, the work with the junior conservation camp, the conservation education laboratory for teachers, our efforts and progress in the field of conservation education in general, the experiments with two-way radio communication, and the expansion of our farm-game cooperative program.

Many of these improvements or a share of all of them have been accomplished through the increase in hunting license fees made possible by the 1949 Legislature.

A few words should not be amiss concerning the setting of seasons and bag limits which must always be accomplished with a view toward harvesting only what can be spared and producing future adequate and healthy crops of wildlife. One ever present handicap is the poacher, who according to some, prevents more wildlife being born because of illegal killing than the real sportsmen kill in season. If the truth is only half that serious, it is time to stop poaching and give our wildlife a sporting chance.

You may say to me "Are you satisfied with the results?" My answer will always be *"No, but we are profoundly grateful and thankful to God for what we have."* Many would think they had a hunters' paradise if they could enjoy what we have in Pennsylvania. Judging from what I have seen elsewhere we should be very happy to have so much.

We have studied what others have, especially our neighboring states; their game populations, the kill, the length of seasons, the bag limits, the license fees and all. We ask you this question: "Where outside Pennsylvania can you find so much of so many kinds of wildlife and hunt all of them for so little?" We have deer and bear, turkey, grouse, pheasants, quail, cottontails, snowshoes, squirrels, ducks, geese, shore birds, woodcock, 'coons, woodchucks, beavers, and many other furbearers. THEY, AND OTHERS, ARE ALL IN PENNSYLVANIA. WE ARE VERY FORTUNATE AND SHOULD BE TRULY THANKFUL FOR WHAT WE HAVE.



An All-Pennsylvania Mink Coat

A Hal H. Harrison Picture Story

A MINK coat, every woman's dream, may well be produced entirely in Pennsylvania . . . from the wild animals to the finished wrap.

Pennsylvania is one of the nation's leading fur states, enjoying a $2,000,000 business annually. Of that total, an average of $200,000 a year is paid for mink pelts. (According to the Game Commission's latest Biennial Report, the figure for 1947-48 was $219,317; for 1948-49, it was $109,324.

About 10,000 minks are trapped in Pennsylvania annually. These are purchased by fur dealers, like Bill Jackson, owner of the Conneaut Lake Fur Post, who in turn sell them to large manufacturers, like Clearfield Fur Company in Clearfield.

Raw furs arrive in Clearfield are transformed into beautiful coats by skillful, painstaking craftsmanship. The average full-length coat requires from 80 to 100 pelts. From 300 to 500 hours are required in the manufacturing processes.

The making of a mink garment begins with the skilled designer who visualizes the effect he wants. He creates the design in muslin and transfers it to a paper pattern. A man highly trained in matching skins selects the pelts for the garment.

The suppleness and slenderizing lines of a mink coat are the result of the letting-out process in which each skin, by being cut and sewed, is lengthened and narrowed.

Keystone State citizens who are anxious to try their hand at trapping the weasel-like mink, may do so for the price of a hunting license, for each resident license carries with it the trapping privilege. Bait is not necessary for trapping minks, but skilled trappers take advantage of the runways and routes traveled habitually by these animals to set their traps.

It is a highly skilled profession, too, this trapping of wary minks, and the amateur who figures to go out and trap mama a mink coat is doomed to considerable disappointment before he lives long enough to gather together the necessary pelts.

Proper skinning is important. Here trapper Wally Eiler, Meadville, places the skins correctly on stretching boards where they are dried. A good pelt will bring him as much as $15.

At the close of the trapping season, Eiler sells his furs to Bill Jackson, Conneaut Lake fur dealer. Jackson later resells pelts to manufacturers.



When mink pelts arrive at Clearfield Fur Company's Clearfield plant, they are matched for perfect color and quality for each individual pattern. A man highly trained in this work does the job.

Another expert splits the skins in the center, then makes diagonal cuts in each pelt. The number and spacing of these cuts depends upon the length of coat desired.



Operators drop each strip a fraction of an inch as they sew them in place.

The let-out halves are then sewed together to make one full let-out strip.



Complete body and sleeves have been nailed damp to the pattern size. When dry, it is squared to exactly the same detail as the pattern. It is now closed and a mink coat is born.





And this is it! The finished coat takes its owner anywhere in perfect splendor.

Grey Face

By KEITH C. SCHUYLER

MIKE BOONE had heard of "old Grey Face" some time before he was old enough to go hunting for the almost legendary whitetail deer himself. But, who in the small mountain town of Hardfast had not heard of the huge buck that had so eluded all hunters over the past four years that this great size had attracted so much attention.

Even the governor of the state had made a try for Grey Face the year before, and his party came away without firing a shot. Not that the whitetail had never felt the sting of bullets, but the few scars and the big notch in his left ear that he had gathered made him all the more wary. He was smart.

Autumn was hanging on this year, and the rutting season was running later than usual. The amorous desires of the male deer had made elusive ghosts out of some and plain darned fools out of the others. Just a couple miles up Slate Creek, a city hunter had been treed by a big buck after he irritated the deer with a slug from his single-barreled shotgun.

Mike grinned to himself over the



story as he slugged it out with the Little Bald Top. Man! It was certainly hot for the second week in December. He could feel a stream of perspiration trickling down his back to add more moisture to the soggy mess around his belt line. He stopped a minute in a clearing among the pines to compare the distance he had made up the mountain with the distance remaining.

Downing Grey Face had become an obsession with Mike. And, his chances were probably better than average. Despite his mere eighteen years, Hardfast High's star fullback knew the hills and mountains surrounding the town as well as the old timers.

Grey Face had been known only as that "big buck with the white face," until an enterprising reporter from the city had written a feature on tales concerning the unusual animal. Just getting a shot at the crafty creature made some sort of a hero out of the lucky, or unlucky, nimrod. No one had ever more than creased Grey Face, but there were certainly some wild stories.

Three times during the dog training season, Mike and his beagle had



seen Grey Face on Little Bald Top. Many times they had come across his calf-sized tracks along the run that trickled down the side of the mountain until Mike was sure he knew the big deer's runway. So sure was he that he spent the entire first three days of the season along or near the runway without sight or sound of his quarry. The banging of guns in the small game season had tipped the wily fellow off that it was time to make himself scarce; and, Grey Face had done just that.

This was the last day of the season. Mike had to work until noon, and now he was forced to climb the mountain during the hottest part of the day. He laid his 30-06 carefully beside him and mopped his moist brow. The large, open, grass covered bench surrounded by second growth timber that he had chosen for his rest stop allowed a fair view both up and down the mountain and revealed to Mike that he was at the half way point. However, the spring that fed the run toward which he was headed was only a few hundred yards higher up the mountain, although it was another half mile to the east. Walking out the side of the mountain wouldn't be so trying, and the young hunter decided to give himself a rest. He flopped down beside the rifle and chewed meditatively on a weed stem.

Far below, a dirt road cut its way carefully among the grain fields and lush pastureland in the fertile flat provided by Slate Creek to finally lose itself in the confusion of buildings on the outskirts of Hardfast. Mike had pedaled his bicycle over that road to the foot of the mountain, dismounted and followed the old log road a mile up the hollow and then cut straight up the side of the mountain to the spot where he now contemplated this lovely panorama. Slate Creek, not as considerate as the road, looped recklessly among the fields to disappear behind a hill on the far side of town.

The dry summer and fall had made the creek a popular watering spot for the highland animals, and the take of antlered deer had been heavy up the hollow that carried the stream. Mike chewed a little harder on the weed as he thought of the good shooting he had missed those first three days. He finally jerked the weed from his teeth and climbed stiffly to his feet. It was then he heard the first shout.

At first he thought that it might just be one hunter seeking another, but then there were more shouts. Mike knew that a drive was on. And, from the direction the yelling seemed to be located, it appeared that the drive was moving out along the side of Little Bald Top at a point that would include his objective.

Well, that meant only one thing; the standers must be lined up along the run coming down from the spring. So, Mike moved to the upper edge of the clearing he was in and parked himself on a stump. No use moving any closer to that mess; when the drive was over, his hunt was over. That gang would move every deer off the side of the mountain.

Mike sat very still, but inside he was churning over. His last chance to try for old Grey Face this season was being fouled up by the large party of hunters now driving his direction. The deer had been scared from the better feed in the low hills to the more remote spots, and these hunters knew it.

The whooping and shouting was drawing nearer. A faint east breeze that carried the feel of snow was stirring and made the hunting party sound much nearer. In a few minutes a slight chill covered Mike's perspiration soaked torso. An overcast was forming to give a new perspective to the landscape.

The first shot that crashed through the trees sent a quick thrill through Mike, and he gripped his rifle tighter. Then there was a short pause followed immediately by a volley of four or five shots that certainly must have been coming from more than one gun. A lone desperation shot ended the roaring reverberation that beat against Little Bald Top.

Mike took some satisfaction from that last shot. It meant that the standers had probably missed the buck, and he might come out along the grassy bench that included the lone hunter's sphere of vision. The shouting that had followed the shooting now died and the woods were silent. The drivers must have been close to the standers when the deer broke from cover. Mike strained his eyes and ears in the direction from which the shooting had come.

Maybe it was old Gray Face they had jumped. However, Mike doubted that the wise old fellow would let himself get caught in a drive. But, the very possibility made his heart beat harder against his chest.

At first it was just a slight rustle that made Mike reach for the safety catch on his rifle. Then, as the unmistakable crackling of twigs announced the approach of some big animal or man, he released the catch and slowly raised his rifle to the ready position.

The buck came into the clearing about one hundred feet below the spot on which Mike was concentrating. It moved haltingly forward for several steps as the 30-06 lined up with its chest. Mike aimed a little low; he was shooting down hill. He squeezed slowly on the trigger as the sights caught up with the slowly moving target. Then, down went the buck.

The deer thrashed around in the high grass as Mike strained for a sight of it. Finally, all was quiet, and he eased the safe on again and moved cautiously forward while covering the spot with his rifle. As Mike approached within sixty feet of the buck, the crippled animal raised itself up on its forelegs, and Mike carefully sent a slug through the lower part of its neck. It was his first shot.

Hurriedly then, he moved up to the whitetail, a nice eight pointer and added a well place thrust with his hunting knife to assist in the bleeding work that his shot was accomplishing. After moving the buck's hind quarters up hill to insure good bleeding, Mike hollered as loudly as he could.

"Hello down there. Up here is your deer."

Several calls later he received an answer, and by the time he had field dressed the deer, a party of panting hunters came struggling through the brush.

"Did you get him?" one big fellow with a disappointed red face asked as he came puffing to a halt beside the carcass. "We were trailing him by the blood, but we lost him down the mountain a ways."

Mike grinned. "He was foxy. He cut back up to circle you when I spotted him," he explained as he carefully wiped his knife on the grass and slid it back in its sheath. "Well, pack him up; he's yours."

By this time there were eight of the hunters gathered about Mike, and they exchanged astonished glances.

"You mean you didn't shoot him; but, I heard a shot—," one said questioningly.

Then Mike explained how he had pulled up on the buck and was about to fire at the moment that the wounded deer could no longer keep going. "I hated to shoot him again," he said, "but there is always a chance that he might have gotten away."

Unused to this type of sportsmanship, the other hunters were profuse in their thanks and tried to insist that Mike share in the meat even though all of them were from another county.

"By golly, I'll bring it to you myself," one declared.

The genuine appreciation of these men and the others now collecting to learn the story was compensation enough for Mike. He thanked them for their consideration and moved off down the mountainside while they began to search the carcass to determine who had fired the shot that had actually been responsible for the deer's death.

The warm glow of deserved pride inside Mike for what he had done slowly began to lose ground to the bitterness over having been deprived of his last chance to get a crack at old Grey Face. Of course, he could have gone on up to the top of the mountain in the chance that the veteran of the hills might still be hanging around. After all that racket though, the sly monarch was probably miles from there.

But, just where was he? That question bothered more than one hunter. Deer don't move far from their usual haunts, and yet Mike had heard of no one who had seen Grey Face this hunting season. The old boy must be somewhere around.

Mike stopped near the log road along an old deer runway and made a half-hearted attempt to look for a buck. As the cool of the waning afternoon crept through the woodland, he finally gave up in disgust and started for home. A squirrel that raced through the leaves to the protection of an old dead chestnut gave him a momentary start, but he continued his purposeful path down the log road toward the edge of the woodland that marked the skirt of the mountain.

Just as the beginning gloom of early forest evening began to give way as the trees thinned to the open fields beyond, Mike saw the unmistakable shape of a deer cautiously moving up the now gentle slope of the mountain. Even before he could see the great spread of antlers, Mike recognized the ghostlike face of the grizzled monarch of the mountains.

So that's where he had been hiding; out of the woods in the open fields!

Even as the thought struck him, Mike was releasing the safe on his rifle and slowly bringing the gun to his shoulder. He couldn't wait long; old Grey Face would wind him in another few yards. As Mike searcher the sights against the dark background, Grey Face stopped behind a heavy hemlock.

The waiting was almost unbearable, and Mike's knees were beginning to shake as a terrible excitement welled up in him. Cautiously he let out his breath and lowered the rifle a few inches to rest his arms.

Then he heard a deer snort. Coming straight through the woods from the direction of the fields was another buck. Although smaller than the half hidden oldster, the newcomer was a big deer, and his spread of antlers was heavy with long, well formed tines. He was walking stiff-legged toward the hemlock and stopped in full view of the gloom camouflaged hunter.

Mike shifted his sights to the smaller deer. Then he moved them back to the hemlock. Poor Mike didn't know what to do. He wanted more than anything else to get a shot at Grey Face, yet here stood a beautiful trophy in a perfect position at a range at which he could hardly miss.

Grey Face made up his mind for him. With a raging snort, the hidden buck streaked out of his tem-

porary shelter straight at the other deer. They met with a terrific clash of antlers that sent the smaller buck back on his haunches.

Mike lowered his gun and just stared. Here was a scene worth more than any shot than any hunter could ever have. It was Nature in one of her most savage moods.

Grey Face drove forward with his powerful shoulders to upset his antagonist further, but the other animal was game and managed to regain its hind legs after being driven back several feet in its undignified position. For a moment their antlers remained locked, then the smaller deer wrenched free and retreated for several steps.

Grey Face snorted and followed a step; then he stopped and braced himself. With terrific power, the challenger smashed into his larger opponent. Grey Face held his feet, but the charge staggered him considerably.

For several moments the mighty fighters swayed back and forth as each endeavored to throw the other off balance. At first, the old buck had his way and seemed to carry his opponent almost off the ground. But, his aggressiveness slowed and he seemed to be somewhat weaker than when he started. Once, he even attempted to back away, but the antlers had become interlocked.

More than one pair of fighting deer had died in this position, and the situation was becoming grim.

Slowly, the younger buck began to gain the offensive and Grey Face gave ground. Several times he coughed pitifully as though his tired lungs were protesting, although it may just have been the dust stirred up from the leaves in their arena.

Grey Face was definitely tiring now. For a tense interval both animals stood braced motionlessly as they glared from bloodshot eyes at a distance of only a few inches.

Then the younger buck started things moving. Savagely he wrenched his head in an effort to free the antlers while Grey Face fought back with renewed vigor. In one supreme effort, the older deer managed to get his rival up on his hind feet and both struck desperately with their front hoofs.

It was a good move, but it proved to be Grey Face's undoing. As the two danced precariously together, Mike saw one of the old fellow's hind hoofs suddenly slip down between two large stones, and he was momentarily caught off balance.

The young buck pressed home his advantage, and Mike heard a distinct snap just before the two deer crashed in a dusty flurry with Grey Face in under. The youngster was on his feet quickly, and Grey Face tried desperately to follow. He managed to rise to his forelegs, but one hind leg had been broken, and the old fellow was now almost helpless.

Mike could see the broken leg trail-



ing at right angles as the young buck now had his way and dragged his larger opponent around almost at will. It sickened Mike to see the mighty monarch so abused and he moved to end the fight just as a strong gust came down the mountainside and carried his scent to the scene of battle.

The young buck let out a frightened snort and gave a mighty wrench with his powerful neck. There was a loud crack, and the bucks were separated. Before Mike had time to think, the young buck had made several snorting leaps through the trees and was out of sight.

He was holding his head slightly to one side as his remaining antler threw him slightly off balance. For, his other antler was still interlocked with those of Grey Face.

Mike carefully moved through the trees to the fallen deer; he hadn't even thought to remove the safety catch on his rifle. The drama that had taken place before his eyes somehow robbed him of any desire to shoot either of the battlers. He felt almost embarrassed as he approached old Grey Face with his gun in hand and a disturbing tightness in his throat.

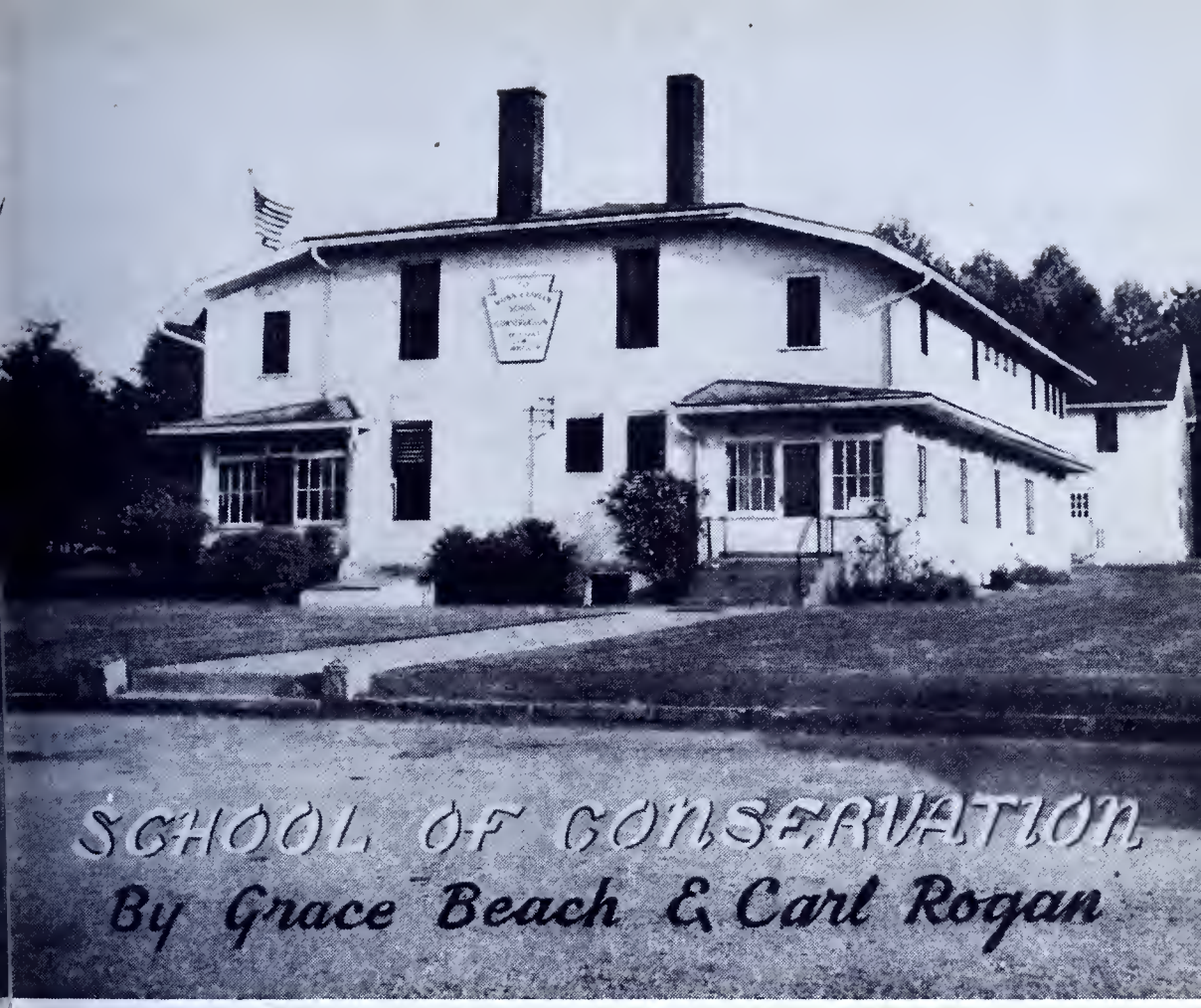
The fallen whitetail was sucking great gasps of air that sounded almost like a sob. As Mike neared, Grey Face suddenly made a lunge forward and managed to get to his forelegs. Then he gave a great sigh, grunted and allowed his forelegs to slide directly in front of him until his massive head rested between them on the leaves.

He never made another move as Mike stepped beside him; Grey Face was dead. . . . *The End*



Department of Forests & Waters Photo

Bill Wolf, prominent Philadelphia writer and constant contributor to this magazine, recently received a citation from the National Association of Conservation Education and Publicity for his series of articles dealing with stream pollution in Pennsylvania and America. The award was presented during ceremonies at the official dedication of the New Kernsville Dam above Hamburg in Berks County on October 4th. Wolf, left, is shown here receiving the citation from Governor James H. Duff and Department Secretary M. F. Draemel, right.



SCHOOL OF CONSERVATION

By Grace Beach & Carl Rogan

NOTE: This is the first of two articles on the Ross Leffler School of Conservation at Brockway, Pa. This school has attracted national attention and has set the pattern for the establishment of similar institutions throughout the United States. The intense interest displayed by many young men in vying entry to, and in conservation as a profession, aroused the interest of the writers. So one gloomy, rainy morning they determined to visit the school, study all that might be of interest and report it in an unbiased opinion. This article deals with the manner in which prospective game protectors are selected from among the average man and taught at the school, for one year, the various phases of wildlife and wildlife management, until they are assigned to the field.

AT THE crack of dawn, six a. m. to be exact, we started on our journey to the school, accompanied by George L. Norris, who acted as our guide. George is Supervisor of the Game Commission's Southwest Division, comprising ten southwestern counties. Upon our arrival at the school, seemingly hours before breakfast, the party was greeted by the able chief of training, William C. Shaffer, and his equally able assistant, Robert Lichtenberger. After the usual amenities and necessary interruptions, the writers began some of the more important discussions with the chief and his assistant. For several hours Mr. Shaffer lectured us on the requirements of the school. We were willing pupils and gained much of interest.

The school had its beginning when the work of the modern Game Pro-

tector developed into a recognized vocation, a profession. In 1930, President Ross L. Leffler, in whose honor the school is named, conceived the idea of a Training School, where the officers could be given training courses similar to those which enterprising businesses had long been using. He did not think it was fair to ask Game Protectors to become proficient over night in the many lines of endeavor they were called upon to perform without instructions. Accordingly, the school was established temporarily on the present site, known as the Marshall lands. The first class was started in 1932 and attended by 139 men of the Commissions Field Force who received a six weeks' course of in-service training. This training was repeated in 1933, 1934 and again in 1935.

The Commission decided in 1936 to make the school a permanent one, and with its inauguration all other forms of selecting salaried field personnel were abolished by the Commission. Since its inception, the institution has graduated 125 thoroughly trained men, exceptionally well qualified for their work as Game Protectors.

The manner of selecting prospective students is unique. Any male citizen who has lived in the Keystone State for a period of at least three years, who can meet the age, physical and other qualifications, and who intends to make wildlife management his vocation, is eligible to apply. Those qualified are advised of their eligibility to take competitive written examinations which are given in Harrisburg. Oral interviews are also included. Students are then chosen from those with the highest average standing on a statewide basis.

The size of a class is limited to the requirements of the Commission, which this year provided space for 25 men. The men go through an intense and thorough training and undertake studies to qualify them satisfactorily for work with wildlife and wildlife associates.

The writers noted that one of the requirements is that the applicant must stand at least five feet eight inches in height. "Some of the applicants," Mr. Shaffer pointed out, "think the rule book might make exceptions for those between five foot seven and five foot eight. The rules were set for a reason, and must be strictly lived up to. If the applicant is a quarter of an inch short of the required height, he is automatically unqualified for school training." Bad vision is also a disqualifying factor.

Weight plays its part in the requirements for entrance, too. The minimum weight of applicants is 140 pounds, and the maximum is 200 pounds stripped of all clothing up to six feet in height. An additional allowance of ten pounds is made if the applicant is more than six feet tall.

All applicants must be at least 23 years of age and not past their 35th year. In all cases, the applicant must be able to prove he has had at least five years of practical hunting and/or trapping experience or has completed study for two years in forestry or wildlife management, and two years in hunting and/or trapping. Better still, both!

The preliminary application procedure is simple. Only usual questions of name address, residence, data and place of birth and so on are asked. But then things get tougher. Education previously obtained is as important on the application form as it is to know with whom the applicant had previously been employed. A thorough examination is also important and the results must be given and recorded on the application. The applicants selected go through a stiff corridor of examina-



PGC Photo by Batcheler

Written tests are given on a wide variety of subjects. No trick questions are asked although some do require considerable thought, as this scene portrays.

tions, which eventually determine the most qualified and best possible students for the school. These men will, after training is completed, represent the Commission and sportsmen afield.

Following admission of the application, students begin other rigid tests. All competition in the examinations is blind, in that each applicant is given a number and goes by that number throughout the entire test. Written tests are given on the applicant's ability to spell; his knowledge of the history of the United States and particularly Pennsylvania; the Keystone State's geography; ability on mathematics, English, grammer and natural history; the state game and fish laws and other related subjects. No trick questions are asked, although some do require considerable thought.

Of equal importance is the oral test before the board of interviewers on the applicant's temperament and judgment. Quick, decisive and excellent reasoning go hand in hand with tactfullness and frankness, and even temper and courage. Not all the questions deal directly with wildlife, although the examiners take into consideration the conservation background on hunting, fishing or any training along this line, as well as physical appearance, personality, speech, mental alertness, temperament and judgment. In determining the physical appearance, the board considers everything from the shoe shine to the neatly combed hair.

All applicants selected by competitive examinations are again given a rigid examination by a registered physician appointed by the Commission. They also are subject to a

moral and character investigation before their final selection for the school.

Following the oral and mental examinations, prospective students are rated according to points received in various tests. There is a possible maximum of 400 points in all tests, which are divided into mental and oral. The mental test has a maximum point rating of 280. Rating in oral tests before the interviewers has a possible 120 points. The latter is determined by physical appearance (25 maximum); personality (30 maximum); hunting, fishing, game management or other conservation background or experience (15 points maximum); speech, English and mental alertness (20 maximum); and temperament; pugnacity, boastfulness, temper and timidity (30 points maximum).

The highest grade received by a student attending the present sixth class was 243½ points out of a possible 280 for the written examination. Since none of the grades are published, the applicant or his agent can have access to the tests only by visiting the Harrisburg office of the Game Commission where the papers are on file for 90 days.

None of the competitors that have taken the tests thus far have questioned the fairness of the questions asked. Mr. Shaffer did say some men have returned to see papers, but only out of curiosity and to correct misinformed thoughts for future use. Students selected for the training are then enrolled as deputy game protectors for the duration of the course at the Ross Leffler School of Conservation. The training period is one year. It would take up too much

Equal in importance to the written examinations is the oral test before the board of interviewers. This test is designed to determine the applicant's temperament and judgment.

PGC Photo by Cady



space to fully go into detail on the subjects taught, and the manner in which they are taught. An outline which follows is believed by the writers to contain sufficient information on the manner in which classes are conducted.

Instructors are brought in from the Game Commission's various offices and from other sources to teach the varied subjects for specific lengths of time. Instructions include the history of the Game Commission, its organization, objectives and administrative functions. The physical and industrial geography of the state and its inhabitants also is taught. There is a generalized course in natural history, including the fundamentals of zoology, botany and other sciences. Also included in the classes are courses on general office procedure, public speaking and public relations work, all of which are important to wildlife administration.

The training embraces all the specialized legal and related subjects that are necessary to enforce the game laws and perform the work of a game protector, together with such practical application as is available at the time they are in class. Law enforcement classes consist of a thorough working knowledge of all the problems found in the administration of the Game Law, and in the application of general wildlife conservation methods. The game management course of instruction contains the elements of intensive game management and the practice of them, including the latest knowledge available to the game school for improving game habitat. Emphasis is particularly placed upon proper game food and cover development, identification of trees, shrubs, and plants, winter feeding, predator control methods, soil conservation methods, farming practices, research activities and the various other phases of management. Propagation and restocking of game constitutes a reasonable practical study period. So do modern methods of trapping and transferring game birds and animals, including demonstrations on the most successful methods of raising and releasing game.

Specialized training is interspersed with practical field work at seasonable periods of the year. Officers are often assigned to various field duties for practical application of the principles taught at the school. Rotation of student officers to the various sections of the state on field assignments is practiced so that sectional problems may be studied.

Students who successfully complete the 52 weeks course, 31 weeks of which is spent in the school while the remainder is in the field, are assigned to duty on a salaried basis for one-year probation from the date of graduation. They are paid the game protector's first year salary of $3024 a year and if deserving can increase it to a maximum of $4,176 over a ten year period. While in training, the student officers also are paid at the rate of $75 a month for a single man, $120 a month for a married man, $130 a month for a married man having one child and $140 a month for a married man having two or more children. Game propagators are paid the same minimum salary, but the maximum is $3,516, obtainable over a seven year period. In addition, students receive maintenance and subsistence at the school, and necessary traveling expenses in the field. When the probation period is completed satisfactorily, the student officer is assigned to a permanent location as an enrolled field service man.

The Game Commission's Conservation School has been certified as an approved training institution for World War II veterans.

. . . *To Be Continued*
(Next Month: The School)



To Each Their Own

SAXTON—In mid-September a neighborhood girl brought me three rabbits that did not have their eyes open. She said their dog had found their nest in the yard and she was afraid it would kill them. I had a tame rabbit that was about due to have young so I put the three wild bunnies in with her. She built them a nest of her fur and straw and the next day she had her own young. Much to my surprise, the tame rabbit killed her own young and kept her adopted ones. About a week later, however, she killed one of the wild rabbits which by that time had its eyes open and was moving around the pen. I then released the other two rather than chance her killing them also. I have often wondered if rabbits in the wild also kill their young when the population gets too high.—Game Protector John Hiller, Saxton.

Pass the Bucks

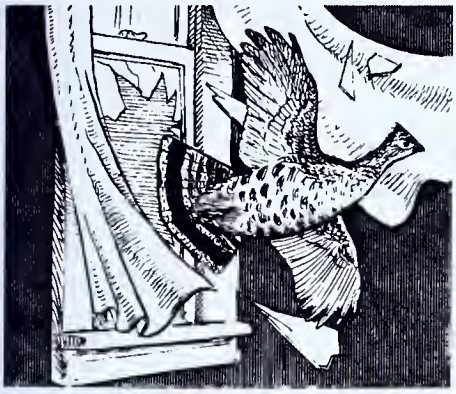
WEATHERLY—While on night patrol on Setpember 27 I was accompanied by Deputies Koehler, Woodring and Billman. We passed a field in which we saw eleven deer. I used my spotlight to get a good look at two bucks with unusually large racks. A check of the deer showed that eight of the eleven were bucks, seven of them legal. We watched three of these bucks in a battle which was put on just as though no one were around. The night was very still and we could plainly hear the clash of the antlers as the bucks rammed together. The antlers were rubbed free of their velvet rather early this fall which might account for the aggressive actions of these bucks.—Game Protector Glenn Kitchen, Weatherly.



Like A Grouse In A China Shop

TITUSVILLE—Recently I received a call from an elderly lady requesting that I come to her home in the country and remove a grouse from one of her bedrooms. Upon my arrival I not only found a very confused grouse, but also a very indignant woman, with the disposition of both being quite justified.

According to the story I got from the lady, she had heard a crash several days before but thought it was a car back-firing on the highway nearby. Instead, however, a grouse had crashed through a rather large window in a nicely furnished but seldom used bedroom. Not being hurt in the least, the grouse decided to get back out of this room—or else. When I was escorted into the room, my first impression was that of the proverbial bull in the china shop. For in its frustration and panic this bird put on a display of violence that all but wrecked the room. Pictures were knocked off the wall and lay with their broken and twisted frames on both floor and furniture with glass from both the pictures and the window scattered throughout the entire



room. Floor lamps, table lamps and chandeliers lay on the floor, broken beyond repair, with several vases and drapes in similar condition. Much of the furniture was scratched and some broken; rag carpets and bedding were soiled beyond description.

I caught the grouse and took it back out to a nearby Game Lands. When released, the bird once again took off for the tall timber with all the speed, power and grit—that it takes to wreck a bedroom.—District Game Protector Sam Shade, Titusville.

Wild Turkeys

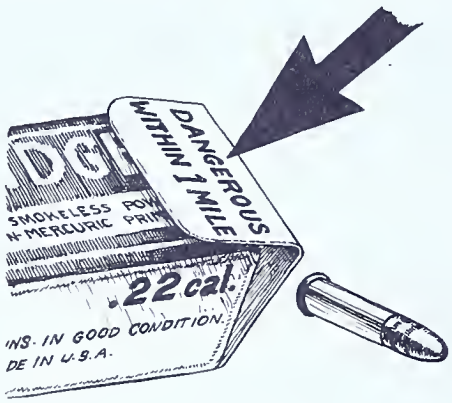
JOHNSONBURG—While I was attending a Division Meeting on September 26 and 27, there occurred a humorous but nevertheless regrettable incident at Johnsonburg. My wife received a telephone call from a local resident telling her that he had captured three young wild turkeys that had been wandering around one of the hill streets of the town. He wanted to know what disposition he should make of them. She told him she would locate someone to take them off his hand and called a Deputy in Johnsonburg to contact the turkey captor. The Deputy later called back to report he had the turkeys and wanted further orders. Mrs. Van Order, realizing that all the Game Protectors were attending the Division meeting, told the Deputy he might as well take them out and release them himself. I obtained the following story from the Deputy the following day. It was after dark when he received the birds and he wasn't too familiary with turkeys, especially young turkeys. He took them some distance from town and attempted to roost them in a tree. The birds refused the invitation. The man said they didn't appear to look just right but in the dark he couldn't decide just what was wrong with them.

The next day the Deputy learned he had just released three pet Guinea Hens belonging to a local resident. I received a call from the owner on my return home and he was very splendid about it. He really had a big chuckle at the expense of the man who originally caught the "wild turkeys" and the Deputy who released them. To date the Guinea Hens have not been located or returned so when the season opened in Elk County, there may have been several hunters who got a confused look at some exotic "wild turkeys."—District Game Protector Vern Van Order, Wilcox.

Peachy Woodchuck

WOMELSDORF—Mrs. Paul Teufel, who lives on a small farm north of Womelsdorf, tells me that a woodchuck climbed their peach trees last summer and destroyed at least six bushels of the ripe fruit.—Game Protector Elmer Turner, Centerport.





Long Shot

PHILIPSBURG — On September 20th I was called in on a case that clearly demonstrates the power of a 22 rifle and what carelessness will do with these so-called small arms. Three shots had hit the front of a home and one had gone through the dress of a lady who had been standing in front of the house. I was called since they thought the shots had been fired by someone hunting pheasants. I spent part of two days looking for someone hunting in the vicinity but failed to locate anyone. I did observe many pheasants in the area and assumed they were the cause of the shooting. At the same time the constable was working on the case to find out if it was careless shooting at some other target. He found it was a 15 year old boy who had fired five shots at a crow in a tree about a mile away. The shooting took place across a large swamp in Centre County. Due to the crow being in a tree the shots went high and over the swamp area. They hit the house over in Clearfield County. Four of the five shots hit very close together. I believe the boy will now believe what is printed on a box of 22 cartridges—"Dangerous Within One Mile."—District Game Protector Clyde W. Decker, Philipsburg.

Ringnecks Eat Rabbits?

ERIE—To those people who still insist that ring neck pheasants will kill rabbits, I would like to offer the following: While catching pheasants that were raised by Mr. Neal Hirsch, R. D. 3, Erie, we noticed six rabbits running among the pheasants. Two of them were full grown while four rabbits were about half grown, quite likely the offspring of the two mature bunnies. When Mr. Hirsch built the pheasant holding pen last Spring, the ground was covered with a growth of heavy timothy and clover. The rabbits were either living in the area or moved in while the pen was under construction. For about seven weeks these rabbits lived with about 480 ringnecks on an area of ten thousand square feet. Apparently both species got along right well because both were in good condition when we removed them from the pen. The rabbits were caught by using a large net.—Game Protector Clair Dinger, Albion.

Fox Outwits Fox

GIFFORD—On August 25th Mr. Edward Fox, of Gifford, caught a female gray fox in his trap. When he approached the set, he noticed four young fox pups nursing at her side. As soon as they discovered him, they scampered off into the woods. Right there Mr. Fox decided to outwit the whole fox family. He took the mother out of the trap alive, put a chain around her neck and staked her down. He then left for home to get more traps and set them around her. But upon his return, he discovered that the fox had chewed the chain off and left for parts unknown. To date he has not recaptured the old fox or any of the young, which just goes to show that a fox in the hand is worth five in the brush.—Game Protector Bill Carpenter Mt. Jewett.





Outdoor Kids

By HAL H. HARRISON

"I WONDER where he has gone," mused Jane.

"For all we know, he may be in the ground right under us," Billy suggested.

They were talking about the little chipmunk that had amused them so often last summer as it pattered over the stone wall, tail held high like the periscope of a submarine. Today, the wall was piled high with snow and ice. The chipmunk had long since disappeared.

Billy did not know it, but his guess was right. Their saucy little chipmunk of last summer was that very minute curled into a furry ball in a warm burrow under the stone wall and deep in the earth away from the frost. It was in a deep sleep called hibernation; a sleep so deep and so quiet that it seemed almost like death.

Billy and Jane had watched the chipmunk carrying acorns into a crevice in the wall in late September. They laughed at the way its cheek pouches swelled into two big balls when they were loaded with nuts. At that time, their little friend was preparing for winter. In pocket-like holes at the sides of the main tunnel, food was stored for the months ahead.

When October's frosty days arrived, the little animal slept later and later each day in its central sleeping apartment. Something inside of it kept saying,

"Be quiet! Sleep!" And sleep it did, longer and longer, until one day it did not leave the burrow at all. Breathing slowed. Body temperature dropped lower and lower. The chipmunk sank deeper and deeper into the long sleep of hibernation. It lost all consciousness. Finally, it entered what the Indians called "The Little Death."

When will Billy and Jane again see their little sprite of last summer? When would this little animal with the silky reddish fur and the five black stripes awaken from its long sleep? March perhaps. April for sure. It will awaken with the first warm days of late winter. It will feed from its overflowing cupboard of nuts, acorns and grains. It may come out on very warm days only to return to the protection of the snug burrow when it becomes cold again.

Baby chipmunks will be born in the spring in this underground home. Blind and naked they will lie, four to six of them, against their mother's breast. There they will grow from helpless babies to adults. There in the winding tunnel the little ones will romp and play. There, too, they will find the stores of nuts and seeds.

By June or July, the little chipmunks will leave the home of their parents. They will go out and build burrows of their own. With no older chipmunks to show them how, the little ones will excavate the same kind of a burrow that their parents and their grandparents built for generations before them.

In a secluded place, the animal starts to dig a hole, about two inches in diameter, large enough to admit a chipmunk's body, but too small to admit a weasel. The tunnel winds down and away for several yards. Then the storage rooms are built. Finally, the chipmunk tunnels upward and into the outer world. This exit hole, dug from the inside, shows no outward signs of digging. This hole then, becomes the entrance.

The original entrance, now piled high with tell-tale dirt dug from within, is closed forever. The piles of dirt are scattered or taken away. Leaves and grasses are strewn over the place to hide all evidence of digging. The burrow now has one entrance only . . . the hard-to-see hole that was at first the exit.

QUITE AN ARMY OF HUNTERS

In 1949, Pennsylvania's resident hunting license sale totaled 810,059. Free licenses issued to members of the armed forces and disabled veterans increased this amount by 5,856. In addition, 24,032 non-residents purchased licenses to hunt in the Keystone State in '49.

The 1948 resident license figures topped those of 1949 by about 15,000. Non-resident license sale comparisons between these two years show about 4,000 more out-of-staters purchased Pennsylvania licenses in 1948 than in 1949. Last year was the first in which the resident license fee was increased from $2.00 to $3.15 and the non-resident charge from $15.00 to $20.00.

A reasonable estimate has it that about one million persons will hunt wildlife in the Commonwealth this year as last. The difference between the above license issuance figures and a million will be accounted for by those resident Pennsylvanians who will hunt free on lands they reside upon or on immediately adjacent, connecting properties, other than those publicly owned, because they regularly and continuously engage in agriculture or operate as commercial nurserymen.

Sullivan County Land of Recreation

Note: This center sheet can be removed, if desired, without damaging the magazine.

(Fourth In A Series)

Sullivan County, situated in the second tier from the north in the eastern central part of the State, was formed from part of Lycoming County in 1847. The county was named in honor of the patriotic services of General John Sullivan.

Land Area

The county includes 306,304 acres of which 250,156 acres are in forest land and 56,148 acres are in non-forest land. There are 85,191 acres in farms. Forest land includes 47,144 acres of State Game Lands and 38,438 of State Forests.

Transportation

There are 555 miles of public roads including 289 in State Highways and 266 in County, Township and Municipal roads. Railroad transportation is furnished by the Lehigh Valley line.

Topography

Much of the county is mountainous and there are several beautiful lakes which have become popular as summer resorts.

District Game Protectors

Robert Benscoter, Box 41, Laporte, has jurisdiction over Fox, Elkland, Forks, Cherry, Hillsgrove and Shrewsbury townships.

Rozell A. Stidd, R. D. No. 2, Benton, has jurisdiction over Colley, Laporte and Davidson townships.

Fish Wardens

C. A. Bidelspacher, 302 E. 3rd Street, Williamsport and Paul D. Wilcox, Wyalusing, have jurisdiction over the county.

District Foresters

Samuel S. Cobb, Bloomsburg, has jurisdiction over State forest land in the county.

Historic

The first settlers in what is now Sullivan County came from the Wyoming Valley. These were people originally from Connecticut who also claimed this land under a grant from the King. They were soon either imprisoned or driven out by Colonel Plunkett, acting under orders from the proprietors of Pennsylvania. The improvements that had been made on the land by the Connecticut settlers were taken over by Pennsylvanians but they in turn were soon driven south by the Indians who were left in undisputed possession for a number of years.

In 1786 Daniel Ogden, the first settler following the Indian wars, came into the county and settled on the Loyalsock Creek. This was a wild and rugged country with dense forests and no roads; consequently settlement was very slow.

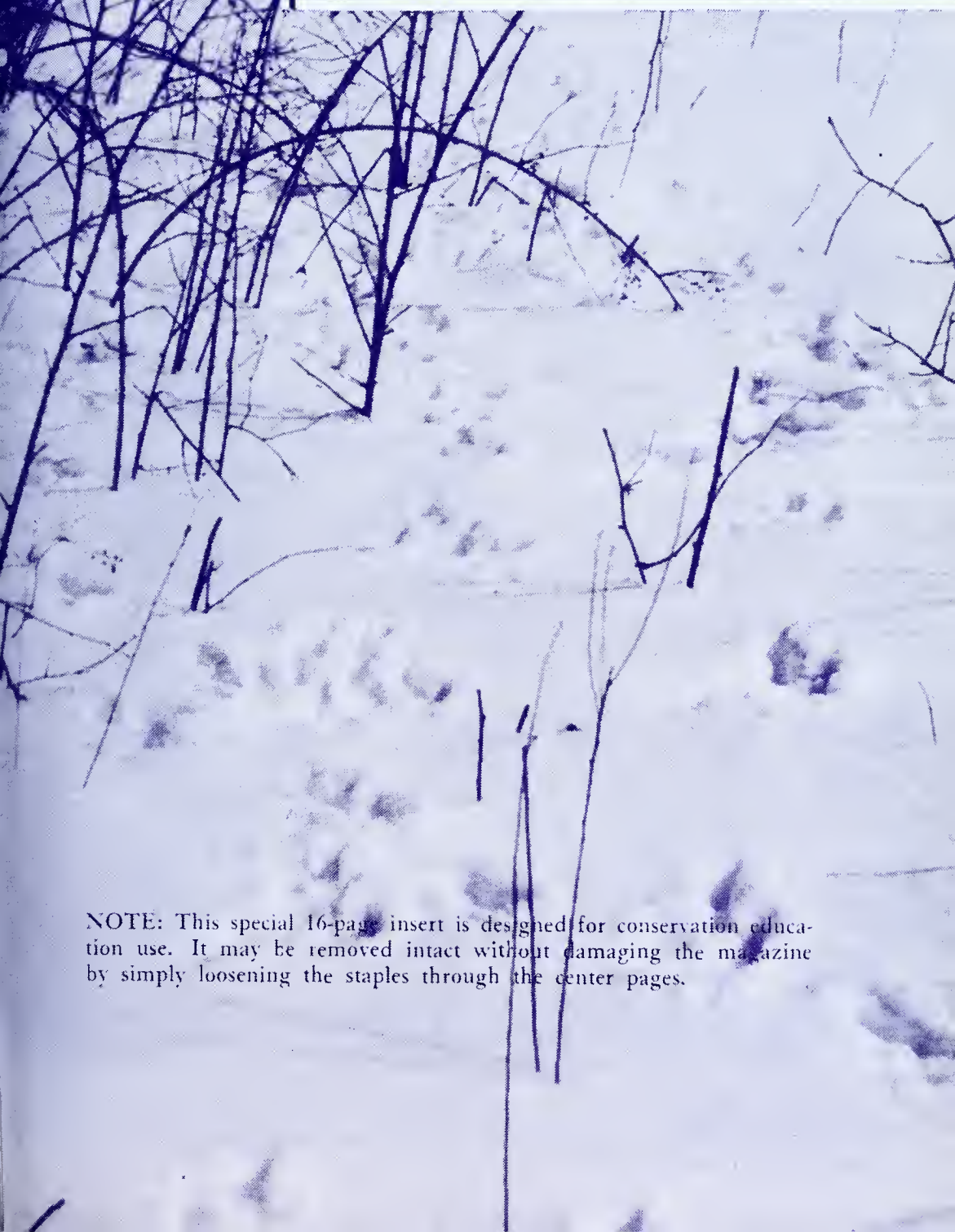
Settlement was stimulated by the opening in 1780 of the Genesee Road from southern Pennsylvania to the Genesee Valley in New York which traversed the county. In 1802 the first industry was opened, a woolen mill which, during the war of 1812, held government contracts for the furnishing of kersey-cloth for the army. The first church in the county


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Elk Creek
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DRY RUN
Ogdonia Cr.
Laporte
Eagles Mere
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Nardmont
Trout Run
464
Creek
Sonestown
Muncy
Muncy Valley
NORTH MTN. TOWER
Muncy Creek
Prevent Forest Fires and Save Game

THE GAME NEWS

Presents

PENNSYLVANIA WILDLIFE AND ITS TRACKS



NOTE: This special 16-page insert is designed for conservation education use. It may be removed intact without damaging the magazine by simply loosening the staples through the center pages.



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Prized by Keystone State hunters and residents are: 1, raccoon; 2, fox squirrel; 3, gray squirrel; 4, opossum; 5, wildcat; 6, black bear; 7, whitetail deer; 8, woodchuck; 9, cottontail rabbit; and 10, snowshoe rabbit.

Pennsylvania Game Animals

1. Raccoon (game and fur-bearing animal)

THE raccoon, often called "coon" for short and sometimes referred to as "the little brother of the bear," is very popular among sportsmen, and is the only mammal in Pennsylvania which is classified both as a game and fur-bearing animal, under law. It is common throughout the state.

Raccoons are excellent climbers, and they can come down a tree either backwards or forwards. They also have the curious distinction of washing most of their food before eating it. Their fur is valuable, and they afford fine sport to night hunters with 'coon hounds. The raccoon is a short, heavily-built animal with a club-shaped tail, and with hind feet that rest flat on the ground like those of a bear. They make tracks that resemble those of a very small child. It is an exceptionally inquisitive creature. The young are born in April or May and usually number from four to six to a litter.

2. Opossum (Fur-bearing animal)

NEAREST kin to the pouch-bearing opossum is the kangaroo of Australia. The Pennsylvania variety is characterized by its coarse hair, pig-like snout, naked ears and long, hairless prehensile tail. The pouch of the female is a fold of skin stretched around 11 to 15 milk glands where the babies spend seven or eight weeks. The pouch may be closed by ring muscles much as a tobacco sack may be closed by pulling the string. So small are opossum babies at birth that a litter of eighteen may rest secure in a teaspoon and weigh less than a dime.

A slow-moving, stupid animal, the opossum seeks safety by retiring, nocturnal habits and by nonresistance when overtaken by an enemy. The latter trait gave origin to the term "playing possum" for feigning death.

3. Wildcat

IN appearance the wildcat, bobcat or bay lynx resembles an overgrown house cat. This big, tufted-eared, bob-tailed creature occurs throughout the State except in the southeast and southwest counties. It weighs up to 40 pounds, but preys only on rabbits, squirrels, birds and sometimes fawns. It also eats many rats and mice.

A coward as a rule, the bobcat will "fight like a wildcat" however, in defense of its young or when cornered. It will swim if forced into water. It is agile and cunning, and will crouch on a limb or in bushes from which it springs upon unsuspecting prey. Its stealthy hunting habits are very destructive to ground-frequenting birds.

4. Black Bear (Game Animal)

PENNSYLVANIA was the first state to protect black bears, in 1905. They may be hunted annually during short open seasons. Though among the best-known large forest animals of the continent, they are perhaps more common in Pennsylvania than anywhere else in the United States.

Because of the bear's droll habit of standing upright and his fondness for sweets and other palatable food, he has always amused children and

grownups alike. Though powerful beasts, they are so shy and timid that to approach them requires the greatest skill on the part of the hunter. They attack people only when wounded or when defending themselves or their young. Bears usually hibernate all winter, during which time their young, usually two, are born. In February of 1949 a big black mother in Northwestern Pennsylvania gave birth to an amazing litter of *four*.

5. Woodchuck or Groundhog (Game Animal)

ALSO called groundhogs, "whistle pigs" or marmots, woodchucks hibernate like the bear.

Woodchucks are vegetarians and eat various grasses, clovers and other succulent plants. Unlike many rodents, they do not lay up stores of food for winter. As summer draws to an end, they feed heavily and become excessively fat. They sometimes do great damage to truck gardens. "Whistle pigs" render a short shrill whistle when alarmed. At such times, they also chatter their teeth with a rattling sound.

Because they are so common and are favored as a food by many people, woodchucks are quite popular with sportsmen. Regrettably too many gunners hunt them carelessly and sometimes are killed or injured in mistake for them. Woodchucks are gray washed with brown above, paler below. The young, numbering three to eight, are born in April. A heap of ground marks the entrance to their home.

6. Varying Hare or Snowshoe Rabbit (Game Animal)

THE big hare with the "snowshoes" on its hind feet turns white in winter where the weather is steadily cold enough. Though not common in Pennsylvania, several thousand are killed yearly in the northern counties. They provide a staple food item for Canada lynx and snowy owls throughout the northern states. Inasmuch as "snowshoes" are creatures of northern latitudes, nature has endowed them with the means of changing color in order that they may better protect themselves from enemies.

Hares are chiefly nocturnal. They thump the ground with their hind legs as a danger signal, and they are exceedingly strong swimmers. Their enemies include owls, foxes, wildcats and weasels. In winter, the hare's presence is known by its conspicuous tracks leading in every direction. Hares frequently make definite beaten paths in the snow.

7. Cottontail (Game Animal)

BEST known and most popular small animal in Pennsylvania, the cottontail rabbit has been so abundant that it has served as a valuable source of our game food supply. There are more rabbit hunters in the field than any other class.

The scurrying zigzag rush of a cottontail for the nearest shelter is so full of energetic motion that it always excites a pleasurable thrill in the observer. Rabbits feed chiefly at dusk when many are seen along the roadsides. They like grasses, foliage, bark and often ravage the vegetable patch. Several litters of from three to six young are born annually. Their home is either a depression in the ground or an underground burrow, the nest being lined with leaves, grasses and hair from the mother's body.

8. White-Tailed Deer (Game Animal)

PENNSYLVANIA'S herd of more than 700,000 deer forms the bulk of the state's big game population. These deer must be controlled, for already overbrowsing of forest trees

has occurred and many deer starve in winter. Abundant throughout practically every section of the state, the animals even wander into towns.

The deer's normal lifetime is about 10 to 15 years. When spurting, they can attain a speed of about 30 miles an hour, can clear an eight foot fence with ease and have been known to make a running jump of 40 feet. Bucks grow a set of antlers which are shed each year during the winter. Fawns, usually two, are born in May or June.

9. Fox Squirrel (Game Animal)

FOX squirrels are distinguished from gray squirrels not only by their color, but because they are nearly twice their size, commonly attaining a weight of two to three pounds. They are the strongest and most heavily proportioned of all American squirrels. In Pennsylvania they are found chiefly in the western part of the State. On the ground they walk with a curiously awkward, waddling gate, and even when hard pressed they climb trees with none of the dashing quickness of other species. They often move about on the ground by a series of bounds. With their broad feathery tails undulating in the air, they present a most graceful and attractive sight.

In the early days fox squirrels were plentiful but never equaled the numbers of gray squirrels.

10. Gray Squirrel (Game Animal)

THE gray squirrel scarcely needs a description. Many who have not seen it in its native haunts are familiar with it as a graceful and charming resident of parks. A long, flat, bush tail gives them away when in motion. The large lustrous eyes are beautiful to look upon. Their chattering, scolding sounds are known to everybody.

Squirrels are active all year round. Their nests are built on the branches of trees in warm weather. They follow their food supply and thus may be very abundant in certain sections one year and almost entirely absent during another year. They bury individual nuts over large areas, eat seeds, berries, grains, fruits and sometimes become a nuisance to farmers by stealing corn. Though easily tamed, they make interesting game for countless Pennsylvania hunters. There are usually two litters of from three to five young, the first being born in March or April.





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These furbearers are highly valuable and are sought after by thousands of trappers during open seasons: 1, otter; 2, beaver; 3, mink; 4, common weasel; 5, red fox; 6, gray fox; 7, skunk; and 8, muskrat.

Pennsylvania Fur-Bearing Animals

1. The Otter

ONE of our rare fur-bearers, the otter is too short-legged to move easily on land, but is remarkable for its grace, agility and swiftness in the water. Although poorly adapted to land travel they are restless animals, constantly moving up and down streams in which they live and often crossing from one stream to another. A sight of the shy, solitary creatures is rare. Its fur is a rich glossy brown above, paler beneath.

Their dens are usually in the banks of streams or lakes, above or below the surface, under the roots of large trees, or beneath rocky ledges. The young which number from one to four are born in late April and early May.

Otters feed almost entirely on fish, frogs and crayfish. While close relatives of the weasels, they are much more intelligent. Their fur is highly prized and as a result they have been persistently trapped since early pioneer days. That the species should continue to exist, though in much diminished numbers, is evidence of its mental acuteness.

2. The Mink

A lithe, active member of the weasel family, the mink is as much at home in water as on land. It is adept in catching fish and in swimming and diving. Although a valuable fur-bearer, it is also a decided predator, bold and courageous in attack. It eats mice, rats, chipmunks, squirrels and ground nesting birds and their eggs, including waterfowl. This diet is varied with many kinds of fish, snakes, frogs, salamanders, insects, crustaceans and mussels.

It dens in holes of other animals or in rock piles or hollow logs. The young number from three to ten and are born in late April or early May. Like the otter it is dark brown above, paler beneath, and its valuable coat has led to its steady pursuit by trappers.

3. The Beaver

FAMED for its engineering skill the beaver is the largest North American gnawing animal. An adult will weigh as much as sixty pounds. It has two powerful chisel-shaped front, short legs, fully webbed hind feet, and a flat scaly tail.

The throat and ears are equipped with valves which involuntarily close when the animal dives, and open when it comes to the surface.

The animals are famous for building dams which provide deep water, maintain a constant level, furnish a hatchery for native fish and a breeding ground for waterfowl.

In the borders of these ponds a dome-shaped house of sticks and mud is built. Inside the house, in a nest above water, the young are born in May. They number three to five, weigh about a pound, their eyes are open and their teeth almost fully formed. The entrance to the beaver house is under water. Trees preferred by beavers, of which aspen is a favorite, are not commercially valuable.

4. The Common Weasel

LARGEST of the weasels in Pennsylvania, this long thin animal with the reptile-like body and beady eyes is the most noted killer and the strongest and most agile of all our mammals for its size. It eats small animals, birds, including many game varieties, rats, mice and poultry. It dens in holes made by other animals, and in rock piles or hollow logs. From five to six young are born usually in late April and May.

In Pennsylvania the weasel is nearly always yellowish-brown above and white beneath although it changes this coat for a white one in colder latitudes, even our northern counties. As a result it is sometimes referred to as a Stoat or Ermine.

Bold and curious the weasel can be "Squeaked" from its hiding place by kissing the back of your hand, a noise which sounds like the cry of young birds.

It has an exceptionally keen sense of smell, sight and hearing. It can climb trees readily and often does. It very commonly kills more than it can eat.

5. The Red Fox

SINCE the days of Aesop's fables, tales of foxes and their doings have had their place in literature as well as in the folklore of the countryside. Many of their amazing wiles in outwitting pursuers or in capturing their prey are evidence of extraordinary mental powers. Dog-like in appearance, but gifted with far greater cunning, the fox is only too well known both by farmer and sportsman. Its slender body is built for speed and its long pointed nose is highly sensitive to smell.

Red foxes apparently mate for life and occupy dens dug by themselves in a secluded knoll. The youngsters are born in March and April and usually number from five to ten. They are tenderly cared for by both parents.

Adults are reddish-yellow above and white below. The feet are blackish. Young foxes often appear to have their little legs encased in black stockings.

Red foxes feed upon small game birds and mammals, poultry, mice and other rodents, fruits and berries, fish, snakes and carrion.

6. The Gray Fox

GRAY foxes are about the size of red foxes but are longer and more slender in body with longer legs and a longer, thinner tail. They also are less keen and lack the speed and endurance of red foxes.

Since they can climb easily they are easily "treed" by dogs, though the trees are usually leaning ones or those with limbs growing near the ground. Dens are built in hollow trees or fissures in rocks.

Because its hair is coarser, it is not nearly so valuable a furbearer as the red fox. Its diet is about the same as the red's and it often makes nocturnal visits to the poultry yards.

The three to five young are born in March or April.

Above, the gray fox is a sooty gray mixed with black, being darker along the middle of the back and upper part of tail. The sides and under parts are a mixture of gray blending into reddish-brown. A reddish-brown band beginning about the ears forms a bib beneath the throat. Adult gray foxes weigh about eight pounds; red foxes ten pounds.

7. The Skunk

PROBABLY no mammal is more generally known and less popular than the skunk. This is due wholly to a scent sac of powerful fluid which is distributed with prompt accuracy when annoyed. The term "polecat" often applied to skunks is the mis-use of the name given Old World Martens.

The animals are chiefly nocturnal and feed upon insects, mice, small birds and their eggs, and occasionally poultry. As they are slow-moving creatures and absolutely fearless, a good many are killed by automobiles.

Any convenient shelter seems to satisfy skunks for a home, and they often occupy deserted burrows of other animals.

The young, numbering from four to eighteen, are born in April. As soon as they are old enough, they follow their mother, keeping close behind her, often in a long single line along the trail.

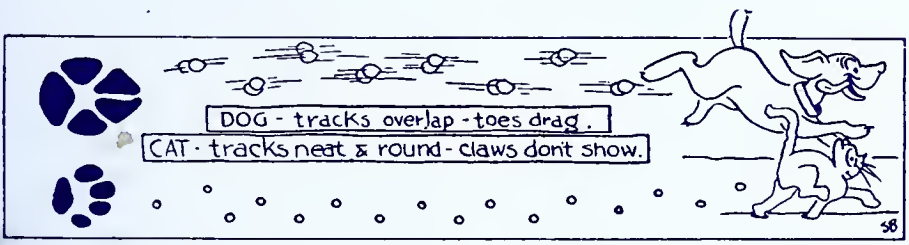
8. The Muskrat

THE muskrat is the most common and most valuable fur-bearer in Pennsylvania, and marsh areas and stream banks should be preserved for this economic by-product of the farm.

Muskrats are about twenty-one inches long and weigh about two pounds. They burrow in the banks along our streams, and build beaver-like houses in swamps, rivers, ponds and lakes. They eat aquatic plants, crayfish, mussels and sometimes fish.

Several litters of from four to nine are born, blind, naked and helpless each season.

Muskrats are mainly nocturnal animals, but often move about during the day. When the animal builds in a bank the nest occupies a large compartment at the end of the tunnel. The nest itself is above water but the entrance is usually under water.



He Who Runs May be Read

By E. LAURENCE PALMER

Reprinted courtesy of *Nature Magazine* and the author.

FOR more than twenty years I have had one hobby that has given me much pleasure. For twice that time, and more, I have been getting experiences that have enriched that hobby. I expect to continue it as long as I am free and able to roam the hills and valleys in summer or winter. I now have pictures, or casts, that I have taken of the tracks of all but a dozen of those birds, mammals and other creatures whose story is here presented. It is a hobby that can be shared by everyone and one whose popularity should increase with the greater opportunities for travel that our peacetime pursuits may offer.

Field experience in the study of tracks is, of course, better than any book experience can be, and it is much more fun. While there are

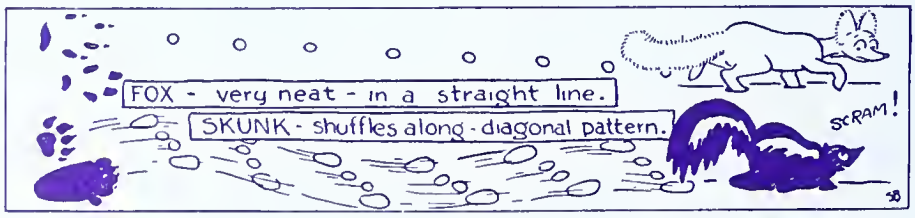
shown here pictures of some details of the tracks of different creatures, anyone with field experience will recognize that only rarely does one find two tracks exactly alike, and, more rarely, does a track show all the details it might, so varied are conditions afield.

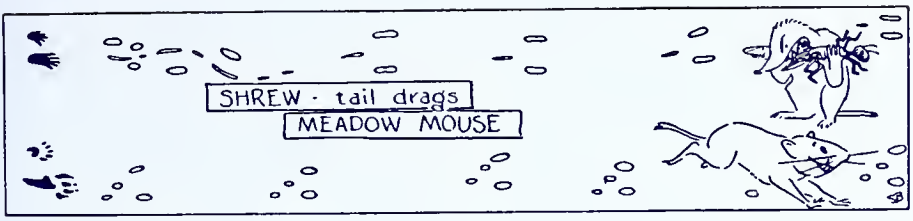
A few hints on tracking will be welcomed by the novice. One does not need to be a Sherlock Holmes to recognize that there is a conspicuous difference between the tracks of mouse and man. But even men vary in size, and their tracks vary accordingly. However, size is one of the first things to notice in attempting to identify a track. To help, this insert includes charts showing the relative size of the front and hind feet of many mammals, some birds, and other creatures. The illustrations and data given here should be considered only as suggestive. They cannot fit accurately every situation one will find.

After studying a series of strange tracks one should be able to form some judgment of the size of the animal that made them. A group of two or four tracks may be taken to be a series that is likely to be repeated. If the animal is a quadruped, two of the tracks will be made by the hind feet and two by the forefeet. Often these give some suggestion as to the length and width of the animal. A rabbit, with a span between the outer margins of the hind legs of five inches, obviously makes a wider series of tracks than does a mouse with a span of nearer an inch. A walking cat commonly puts a hind foot in a track made by a forefoot, but a series of three or four such tracks should indicate the approximate length of the animal. It is not so easy to interpret length or width, of course, when an animal has been speeding, but even such a trail has some significance.

If one wishes to follow and, perhaps, find the animal that made the track, he must be able to interpret direction from what is seen. A famous psychologist friend of mine, trained in conventional signs, said that he always thought of a pheasant trail as marked by arrows indicating the direction the bird had taken.

But there are some things less subtle than arrows indicating directions in tracks. A cat track may appear to be merely a series of round holes in more or less of a straight line. No toe marks show. How can you figure from that which way the cat was going ? Just look at your own tracks in the snow. Do you slide into a track, or do you slide out of it? You, like a cat, slide into a track. This means that if you look at a round hole made by a cat tract you will see that the chances are good that one profile is more nearly vertical than the other. The chances are also good that the more vertical profile was on the side towards which the animal was moving. This same generalization may be applied safely to other animals. It is particularly useful in interpreting the tracks of foxes, dogs and their kin. There may be times when, in old tracks, the rule does not hold because sun shining into a track hole may melt out the opposite side and thus change its profile.





One of the more popular ways of preserving records of tracks is to make casts of them. There are a few tricks to making good casts that may be worth remembering. While it is possible to make truly professional duplications by using expensive compounds of rubber, of collodion, of gum arabic and other gums, the rank amateur like myself is likely to deal with more prosaic substances. I have satisfactory casts made of mud, of plaster of paris, of wax or paraffin, and of type metal. It is rare that one cannot find one of these materials with which to work.

Mud casts are the simplest and least durable, but they will take the place of others when, in an emergency, you find a track so rare or unusual that you just must have it. If the track is in mud or sand take some dry leaves and crumble them to a powder in your hands. From a height drop these into the track until you have a thin film of organic material covering the track. If this layer is not evenly distributed the surplus may be blown free easily. Now mix some clay soil with water until you have a mudpie mixture. Pour this into the track from the side, and, if you have time, let it dry or leave it until a later time when you return for it.

Wax or paraffin casts are emergency casts also. The commonest source of material is a candle, although, in cold weather, a poor substitute may be found in bacon grease. Casts are made with this material merely by melting the medium over the track and letting the molten material flow into the track. If the cast is of any size it should be reinforced with sticks such as matches or twigs. These may be laid criss-cross to give maximum strength, and the sticks should be covered with more wax or other materials used. Casts of these materials must be kept cold to retain any detail worth preserving.

Plaster of paris casts are the commonest of all casts. For years I never went on a hike without a baking powder can of plaster and a pop-bottle of water. I have two casts made high in the Rockies with such a supply that I carried under my year-old son in a pack basket.

Before plaster sets, it develops considerable heat, which will ruin a good track taken in snow. Plaster should be mixed to the consistency of thick pancake batter so that it can just flow easily. This is best done by using an amount of water nearly equal to the amount of plaster wished, and adding plaster to the water, not water to the plaster. The mixture should be stirred until the right consistency is reached, and only enough plaster for immediate use should be mixed at a time. If your plaster has a tendency to harden too quickly for your convenience, add a little vinegar to slow it up. If it hardens too slowly, a little salt will hasten it. Once your plaster has set you cannot use it again by adding more water. A collar of paper, earth or sheet metal will make it possible for you to make a thicker cast with less plaster. Dental plaster hardens quickly and well.

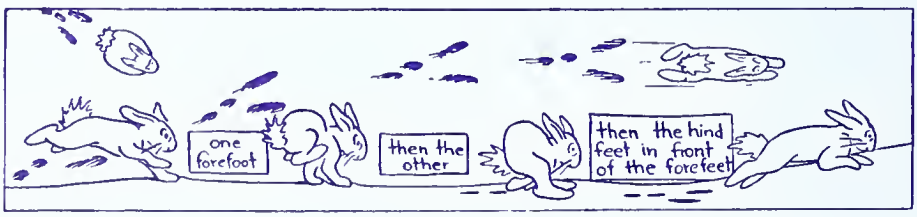
Making plaster casts from tracks in mud, sand or loam is relatively

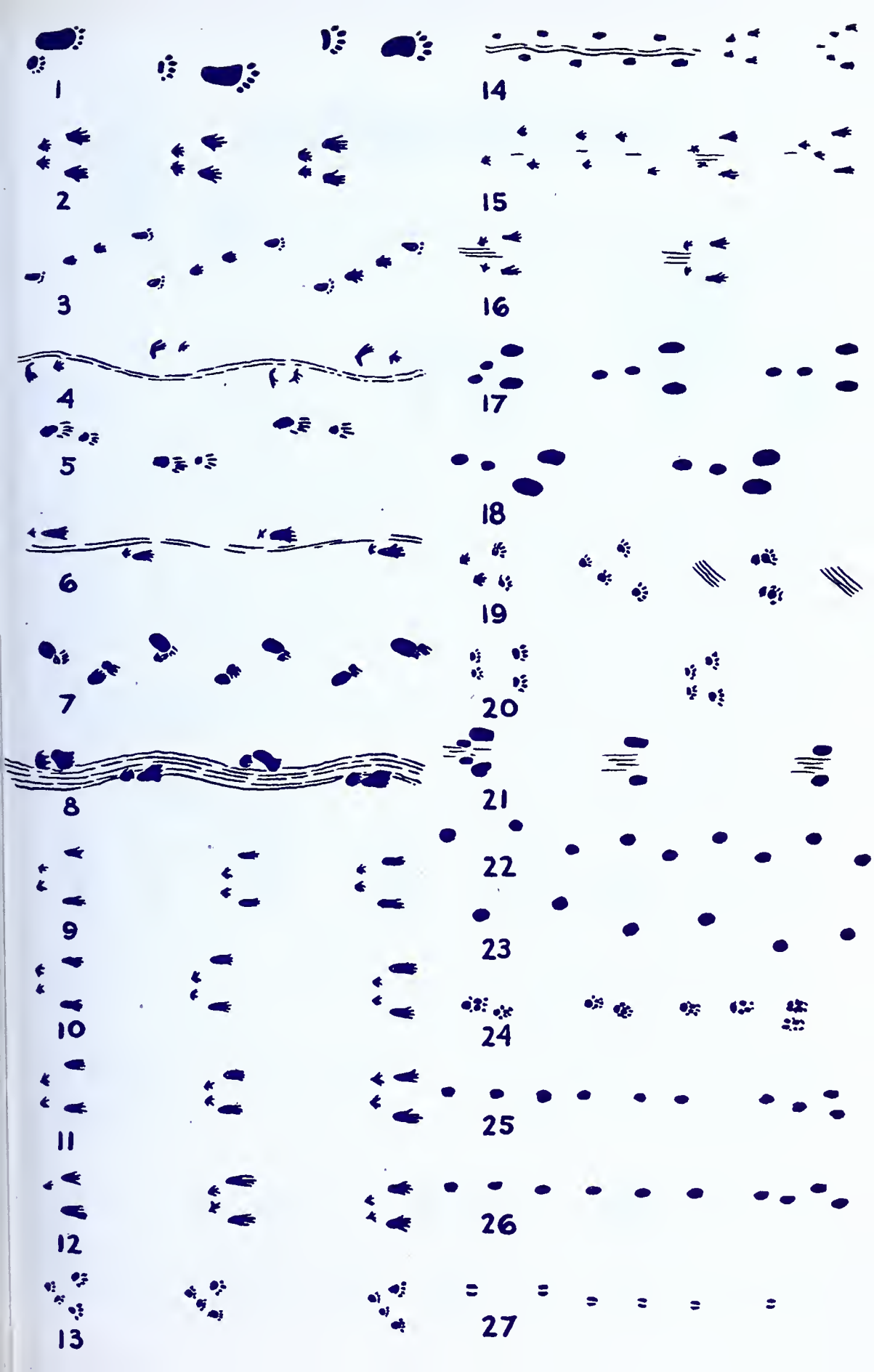
simple. To do this merely place a collar about the track needed for preservation, pour the plaster batter in from one side to avoid disturbing detail by the weight of the falling plaster. Then wait until the plaster has set and remove it for safe-keeping.

To make plaster casts from tracks in fine snow on a cold day, it is well to carry an atomizer with you. Spray the track with water until a fine but firm crust has been formed. Then, dust some dry plaster on the crust and mix your plaster, using slush instead of clear water. Let the plaster flow over the snow track from one side to avoid any disturbance from the falling weight.

If one wishes to make a positive of plaster this may be done by first putting a collar around the negative; then brushing the surface of the negative with vaseline. Pour your plaster over the vaseline, and, when it has hardened, separate the two and you have a positive duplication of the track you first found.

The person who merely makes a collection of track casts, drawings or photographs is missing the greatest opportunity that goes with tracking. The reading of tracks is thoroughly worthwhile. An animal's track indicates not only its size and character, but its mood at the moment as well. Watch a deermouse in the snow and you will see where it obviously was having fun hopping about, using its tail to help it swing sharply around corners. You will find where it merely hops a few inches to get a fresher bite of some meal. Again you may find it setting out crosslots to get somewhere as quickly as possible. Set yourself the task of reading these moods and you have learned a new vocabulary of Nature. If you happen to be a paleontologist it may enable you to interpret the structure, food habits and very existence of some animal that no man ever saw. You will learn to recognize how a huge snapping turtle, buoyed by water, may make delicate toenail tracks in mud at the bottom of a pond, or a deeply rutted trail in the wet mud at the pond edge. What you learn of the snapping turtle and the rabbit may help you understand the trail of a dinosaur. The Grand Canyon of the Colorado has exposed the trails of animals long since extinct. The strata in which these tracks were found tell us something of the time when they were made, but a proper interpretation of the tracks makes conditions of that time more significant. I know a fossil bed in Pennsylvania where something like a horseshoe crab left hundreds of its trails in very ancient muds. The interpretation of those trails made some paleontologist friends of mine more than usually excited for better than a year. I hope that you will want to join the ranks of those who know that those who run may be read.




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Notes On Animal Tracks

KEY: H.F. means hind foot; F.F. means front foot. Stride is distance from one foot track to next forward. Leap is distance front track of one foot in a series to next track of the same foot. The numbers preceding each animal's name refer to the tracks shown on Page 13, and, also, to the tracks shown on the opposite page.

1. *Black Bear.* F.F. 3″ x 4″, five-clawed. H.F. 4″ x 7″, five-clawed. Slow stride to one foot.

2. *Raccoon.* F.F. 2½″ x 3″, 5 thin fingers. H.F. 2½″ x 4″, 5 thin toes. Stride: 7″. Leap: to 20″.

3. *Common Skunk.* F.F. 1½″ x 2″, 5-clawed. H.F. 1½″ x 2½″, 5 claws. Stride: 5″. Form diagonal line.

4. *Opossum.* F.F. 1¾″ x 1½″, 5 spread toes. H.F. 1¼″ x 2½″. Toes, 4 and 1. Spread: 6″. Tail drags.

5. *Woodchuck.* F.F. 1½″ x 1¼″, 4-toed. H.F. 1¾″ x 1¼″, 5-toed. Spread: 4″. Leap: short.

6. *Muskrat.* F.F. 1½″ x 1¼″, 4-toed. H.F. 3½″ x 1½″, 5-toed. Spread: 3″. Stride: 8″. Tail.

7. *Porcupine.* F.F. 2″ x 3½″, 4-toed, long claws. H.F. 4½″ x 2″, 5-toed. Stride: 1′. Toes in plainly.

8. *Beaver.* F.F. 2½″ x 3½″, 5-toed. H.F. 5½″ x 7″, 5 webbed toes. Stride: 16″. Toes in. Tail drags.

9. *Fox Squirrel.* F.F. ¾″ x 1¾″, 5-toed, paired. H.F. 1″ x 2″, 5-toed, paired. Spread: 6″. Leap: to over 5′.

10. *Gray Squirrel.* F.F. 1″ x 1½″, 5-toed, paired. H.F. 1¼″ x 2½″, 5-toed, paired. Spread: 3¾″. Leaps to 5′.

11. *Red Squirrel.* F.F. ½″ x ¾″, 5-toed. paired. H.F. 1″ x 1¾″, 5-toed, paired. Spread: to 3″. Leap: to 5′.

12. *Flying Squirrel.* F.F. ½″ x ½″, 5-toed, paired. H.F. ¾″ x 1¼″, 5-toed, paired. Spread: to 2″.

13. *Chipmunk.* F.F. ½″ x ⅜″, 5-toed, not paired. H.F. ¾″ x 1¼″, 5-toed, paired. Spread: to 2″.

14. *Short-tailed Shrew.* F.F. ¼″ x ¼″, 4-toed. H.F. ½″ x ½″, 5-toed. Alternates in walking Tail.

15. *Meadow Mouse.* F.F. ½″ x ½″, alternates. H.F. ½″ x ¾″, 5-toed, paired. Spread: 1″. Tail may drag.

16. *White-footed Deermouse.* F.F. ¼″ x ¼″, 5-toed, paired. H.F. ¼″ x ½″, 5-toed, paired. Spread: to 1¼″. Tail.

17. *Cottontail Rabbit.* F.F. 1″ x 1″, paired or not. H.F. 1¾″ x 3½″, paired. Spread: to 5″. Leap: to 7′.

18. *Varying Hare.* F.F. 3″ x 3″, not usually paired. H.F. 3½″ x 6½″, paired or not. Slow hop: to 2′.

19. *Otter.* F.F. 2½″ x 3″, 5 padded toes. H.F. 3″ x 3″, hair padded, paired. Leaves slanting tail mark.

20. *Mink.* F.F. 1½″ x 1½″, paired. H.F. 1½″ x 1½″, 4-toed, paired. Spread: 5″. Leap: 2′. May slide.

21. *Weasel.* F.F. 1″ x 1″, 4-toed, paired. H.F. ½″ x 1½″, 4 padded toes. Tracks overlap. Tail drags.

22. *House Cat.* F.F. 1¼″ x 1″, 4-toed, alternates. H.F. 1″ x 1″, 4-toed, alternate. Stride: 6″. Feet track.

23. *Bobcat.* F.F. 1½″ x 2″, 4-toed, alternate. H.F. 1¼″ x 1½″, 4-toed. Stride: to 14″. F.F. & H.F. 2 track.

24. *Dog (Fox hound).* F.F. 2″ x 2½″, 4-clawed. H.F. 2½″ x 2¾″, 4-clawed, alternates. Irregularly arranged.

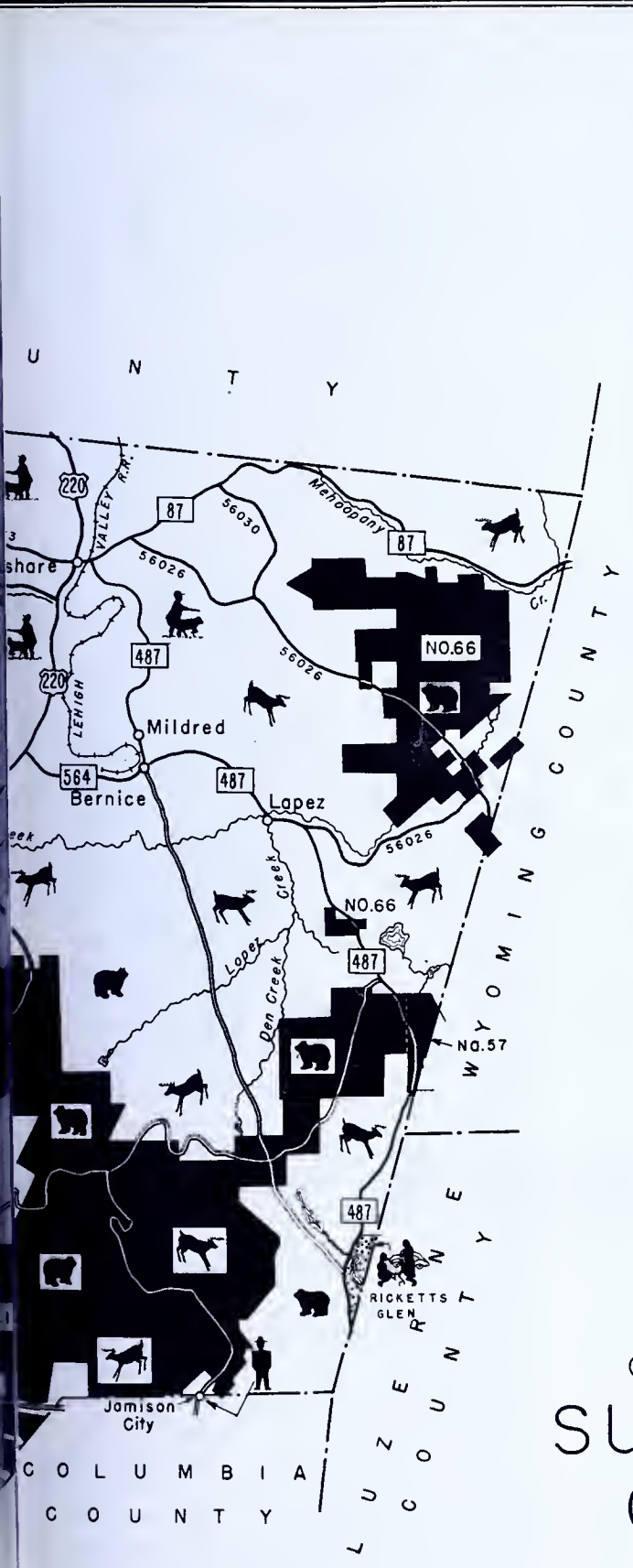
25. *Red Fox.* F.F. 1¼″ x 2″, 4-clawed. H.F. 1¼″ x 2½″, 4-clawed. Stride: 8″ to 18″, straight line.

26. *Gray Fox.* F.F. 1½″ x 2″, 4-clawed. H.F. 1¼″ x 1¾″, 4-clawed, alternates. Stride: 6″ to 16″.

27. *Virginia Deer.* Buck may drag more than doe. H.F. & F.F. 2″—2½″ x 3¾″, 2-parted. Line between hooves straight.


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···KEY···

- Archery Preserve.
- County Seat.
- State Forest Fire Observation Tower.
- Game Protector's Headquarters.
- Bear Hunting.
- Deer Hunting.
- Wild Turkey Hunting.
- Small Game Hunting. (Grouse, Pheasant, Robbit & Squirrel.)
- Railroad.
- Stream.
- State Forest Land.
- State Game Land.
- 533 — Primary State Game Refuge on State Forest Land.
- State Park.
- 87 — Pennsylvania Route Number.
- 220 — U.S. Highway Route Number.
- 56026 — Legislative Route Number.
- Township Route.

PENNSYLVANIA
GAME COMMISSION

SULLIVAN COUNTY

PENNSYLVANIA

0 1 2
Scale in miles

L.A.M.

was a Friends Meeting House erected sometime prior to 1805, just north Eldredsville. At this time a traveler through the county wrote, "the settlements are few and scattered, roads poor, most of the people live in log houses and the principal diet consists of pounded corn, milk and potatoes." The woods were full of bear, wolves, wild cats and panthers. It is reported that one man killed 36 black bears in one season and that another was paid bounty on 17 wolves killed in 1808.

Sullivan County is still a land of game, many deer and bear being shot there each year. Eagles Mere has a nation-wide reputation as a summer resort and while there is some coal mining carried on in the county, it is best known as a recreation area attracting thousands of visitors annually.

Industry

The principal classes of industry are food and kindred products, textiles and textile products, and mine and quarry products. The chief products are grist mill products, silk and rayon goods, and anthracite.

Agriculture

There are 649 farms in the county comprising 85,191 acres. Dairy farming is the chief agricultural enterprise.

Recreation—Hunting

The county is noted for big game hunting, a large harvest of deer and bear being taken each year. Four tracts of State Game Lands are located here—Number 13, comprising 37,197 acres, near Nordmont; Number 66, comprising 6,129 acres, near Lopez; a portion of Number 12; and a portion of Number 134, located near Hillsgrove. Archery Hunting Preserve No. 1, an area of 1,000 acres established by the Game Commission in 1937 for hunting with bow and arrow only, is located on State Game Lands No. 13. It borders and extends westwardly from State Highway Route No. 154 between Elk Grove and Nordmont.

Recreation—Fishing

Fishable waters (name of stream, fish stocked, location and length of stocked waters) include: Black Creek, Brook Trout, Cherry Mills, 4 miles; Double Run, Brook Trout, Eagles Mere, 1 mile; Elk Creek, Brown Trout, Hillsgrove, 6 miles; Elk Lick Run, Brook Trout, Nordmont, 1 mile; Fishing Creek, Brook Trout, Benton, 10 miles; Hogeland Branch, Brown Trout, Hillsgrove, 5 miles; Lewis Creek, Brook Trout, Sonestown, 4 miles; Lick Creek, Brook Trout, Forksville, 4 miles; Loyalsock Creek, Brown & Rainbow Trout, Forksville, 10 miles; Little Loyalsock Creek, Brook & Rainbow Trout, Forksville, 10 miles; Mehoopany Creek, N. Br., Brook Trout, Calley, 3 miles; Mill Creek, Brook Trout, Hillsgrove, 5 miles; Muncy Creek, Brown & Rainbow Trout, Nordmont, 10 miles; Pigeon Creek, Brook Trout, Lopez, 2 miles; Pole Bridge Run, Brook Trout, Laporte, 3 miles; Rock Run, Brook Trout, Muncy, 2 miles; Sullivan Run, Brook Trout, Benton, 1 mile.

State Recreation Areas

Worlds End State Park lies along the historic Loyalsock Creek one mile east of Forksville. The natural formation of the mountains and valleys makes this park one of the most beautiful in the State. It has a large swimming pool and a number of cabins. Picnicking is popular and the area also affords fishing, hiking, and tent and trailer camping. State Forest Picnic Areas are: Dry Run near Ogdonia and Hogeland Branch near Lincoln Falls.

Outdoor Reveries



By JOHN H. DAY

The Midnight of the Year

DECEMBER comes once again to the countryside. The outdoorsman notes the driving snow fleeing out of the North and hears the keening wind-music in the upper air. The knives and axes of Winter are being honed to razor edge. Soon the sun will be flirting with Capricorn and the dark days of the Winter solstice will shroud the woodlands in brooding mystery.

The old Romans identified this first month of Winter with their goddess Vesta, the deity of the hearth. When they felt the chill breath of the "tenth" month all hands became concerned with the kindling and maintenance of a perpetual fire for the common use. December has kindled a different fire in the hearts of men during the later Christian era. The Saxons knew it as the holy month.

The countryman cannot help but turn his eyes to the night skies above as December comes rolling down the calendar. It is now that the heavens begin to declare the glory in majestic spectacles that will stud the wintry skies with breathless beauty until the new year nears the Spring break-up.

The countryman greets these astral performers as old friends. He steps out during the late evening for a "breather" and finds that the upper air has been swept clean of all haze. The vast dark dome seems to close in on the countryside while the sparkling procession blazes on through the frosty night. The big dipper, which stood high in the sky all Summer, is now well down on the northern horizon.

While the snow is dominated by the great hunter Orion eternally stalking the bull Taurus, the outdoorsman passes up this feature attraction for more favored, if less brilliant constellations. Well up in the eastern sky stands the Pleiades, a shimmering star-group which has been popular with star gazers down the centuries.

The Seven Sisters, as the Greeks knew this cluster, have tried the eyesight of many generations. Normal vision can usually place six stars with some degree of certainty while the sharp-eyed can sort out seven and maybe one or two more. Many primitive peoples began their year when

the Pleiades crossed the meridian at midnight in November. It is said that at this hour the group is visible through the mysterious southward-pointing passage of the Great Pyramid.

The countryman rubs his eyes, makes out six stars in the cluster, and finds it hard to believe that this "little" group occupies a volume of space so vast that the light from a star on the outer rim would take some 35 years to cross through and reach the opposite edge. This light, of course, would be traveling at the normal speed of six million miles per year.

Almost overhead the outdoorsman finds another favorite picture in the December sky. This is the ball diamond, the great "square" in the constellation Pegasus, which looks like a huge rectangular hole in the star pattern. It requires a vivid imagination to place a flying horse in the star picture based on the great square, but the ancient star-gazers were not worried too much about realities. They had to squeeze all the gods and monsters of the old folk-tales into their sky charts. Navigators have made good use of two of the stars in the square for centuries.

Just before the sun came up in early August, a dazzling bright star greeted early risers from the horizon in the southeast. This was Sirius, the dog star, heralding arrival of the sweltering "dog days." Since then this brightest of all stars has risen four minutes earlier each day until now the countryman finds it hanging low in the southeast as he takes his final look-around before turning in for the night.

The ancient shepherds knew well this brilliant object. Only one of the wandering planets can outshine the great dog star. There are two other stars which draw the countryman's attention as he watches the Winter sky panorama. These are the heavenly twins Castor and Pollux which lie at the outside corners of a long wedge in the sky pointing directly at the hunter Orion. This wedge can be seen when the moonlight has "paled" out the neighboring stars, which make up the constellation Gemini.

December comes again to the countryside, preserving the dormant life of the fields and woods in its deep freeze lockers. Beneath the apparent "standstill" of the wild world at rest the countryman is aware of life forces on the march, pressing toward the release of the lengthening days in March and April. And as he waits and ponders on these immutable things he looks into the December night skies and wonders even more.

When the sun finally takes a stand at the Winter solstice and turns back to spearhead the driving Springtide the countryman knows that the midnight of another year is at hand. The shortest day marks low twelve in the Winter woodlands. But even though the old weather seers found that "as the days begin to lengthen then the cold begins to strengthen," the countryman sees the solstice as a point of departure toward better days.

The welcome mat was out as I returned to the timbered "hollow" to help celebrate the arrival of another December. I paused for a breath among the few scraggly lilacs which mark the dooryard where once a log house stood. The house has long since mouldered away to a low mound and a few foundation stones. As I stood on this "threshold" to the hill country a pair of nuthatches came swooping across as official greeters.

These gymnasts performed all over the cluster of cherry trees which have succeeded the parent tree set there years ago. They hung head downward and inspected me with beady

eyes before exploring casually along the under side of a branch, like a guy walking on the ceiling.

The northern slopes still harbored the light snow which had fallen during the night, but the hillsides facing the south lay warm and brown beneath the brief December sun. I walked out to the edge of the rim surrounding the hollow, then headed straight down through the old-field tangles to the timbered ravines.

There was a great company of cheerful brown birds feeding in the weedy edges of the thickets. These were the tree sparrows, newly arrived from their nesting grounds in the far north. No matter how severe the weather they have a great time as they feed along the fence rows or across weedy bottoms. About the same size as the common house sparrow, they wear a tell-tale brown "stickpin" on the breast, and noticeable wing bars.

Just as I neared an aging section of stake and rider fence which wanders among the trees a plump chipmunk, who should have been snug abed below decks, scurried ahead of me and disappeared in a hollowed and weathered snag. He scrambled about four feet up inside this hideout, never noticing that a half-inch of his tail stuck out through a traitorous crack. When I grabbed that tiny appendage the hullabaloo inside the weathered snag left me weak with laughter.

After I released him the chipmunk elected to hide in the snag. My walking stick probed into a crack and pried out a narrow section some five feet long. The effect was as though I had cut a window into the hollow retreat. The chipmunk scooted out and onto the rail fence. The last I saw of him he was tearing along at a rapid clip, that outraged tail standing straight up in injured dignity.



A tiny Winter castle had been built into the upper reaches of the hollow snag. It was like a gray blanket, woven of feathers and thistledown and other soft warm fibers. Snuggled down in this cozy den, with the covers literally over their heads, were a pair of white-footed mice.

I know of no more beautiful animal in our woodlands than this little deer mouse. Fawn-colored above, and white as purest ermine below, with tiny white boots on his tiny feet, he always ranks among the ten best dressed members of the ancient order of hibernators.

I disturbed these bundlers long enough for one of the sleepy pair to nestle in the palm of my hand and regard me timorously with his big black eyes. Before he came awake enough to protest I returned him carefully to the nest and wedged the narrow strip securely back in place. I hope the snag den will be big enough to house the new arrivals who will be along in time to greet the returning Springtide.

The woodlands were not without their own holiday decorations. A large colony of the evergreen Christmas fern has established headquarters on a wide sloping bank edging a tiny brook. Spotted about with Nature's artistry against the white

background were many of these green fronds. Almost in the exact center of this bank stands a rotting stub-stump perhaps four feet high. A baker's dozen of the large bracket fungi have moved in on this stump, and were quite decorative as seen from the down-hill angle. Here in the depths of the brooding Winter woods was a natural arrangement far better balanced and more effective than any artificial flummery.

There are many tall trim beech trees in this timberland. The countryman holds these gray patriarchs in high esteem and is conscious of an instinctive awareness of kinship with the ancient tree worshippers as he walks among these graybeards "standing like Druids of eld in the twilight." Many of these trees bear carved autographs cut there years ago by eager youngsters. The countryman wonders how many of those hands lie idle now, though still remembered so long as the timber stands in that quiet woodland.

The outdoor picture contains many delicate traceries which are only to be seen when the snow carpet lies warm and white across the ground. Where the juncoes and tree sparrows have been feeding the snow is stenciled with their beautiful fugitive trails. Many of the fruit-laden weed stalks hold their heads above the snow, revealing a striking design pattern. Vervain is one of these, and some of the taller mints, and the sweet cicely.

As the old year finishes the course and a lusty youngster picks up the pace, the countryman finds himself emulating Janus, the two-headed Roman god who looked both into the past and the future, and for whom our first month is named. A long and wistful backward look calls to mind pleasant days astream, with the trout rising and the painted trillium nodding on the mountainside. Many other red-letter days pass in review, when the veery sang at the bog's edge, the gentian bloomed in the upland marsh, and the cedarbirds held Quaker meeting in the applesauce tree.

To the man who walks the wayside trails the future is always out front and always exciting. Perhaps this coming year he'll find that hummingbird's nest. He might even take that big brownie from the long pool below the old mill dam. Who knows?

ACTIVITIES OF DISPLACED PERSONS LIMITED

In the Commonwealth today are thousand of Displaced Persons who have been sponsored by law-abiding citizens. Inquiries indicate that many are not familiar with legal provisions forbidding certain activities by aliens, therefore the following quotation from the Pennsylvania Game Law: "It is unlawful for any unnaturalized foreign-born resident to hunt for, or capture or kill, or attempt to capture or kill, or aid or assist in the capturing or killing of, in any manner, any wild bird or wild animal of any description, either game or otherwise, and, to that end, it is unlawful for any unnaturalized foreign-born resident to either own or be possessed of a shotgun or rifle or pistol or firearm of any make or kind, or a dog of any kind."

Until they become full-fledged citizens, Displaced Persons found in possession of firearms, wild birds or animals or dogs are subject to severe fines and loss of firearms and dogs through seizure.



Sight Types and Adjustment

By ED SHEARER

THE white-tailed deer is the most widely hunted big game animal in the Northern Hemisphere. More time, money and energy are expended in its pursuit than for all other species combined. Endless books and reams of paper on hunting the white-tailed deer have been written throughout the years but still there is controversy where ever and whenever two deer hunters meet.

Probably next to the guns themselves the biggest argument are the sights employed on them. No matter what type sights you use some jasper will pop up and tell you how wrong you are and dig up some authority to prove it. Like every question that is hotly debated, statements creep into print that are unsupportable. This is very confusing to the average hunter and the beginner. Let us take some of them apart.

I quote one such statement by a reputable authority. "It's impossible to do good shooting with the open sights supplied on our factory rifles." That statement has supplied ammunition to the detractors of open sights for quite some time. Now as there are more open sights used than any other type and will continue to be as long as the factories supply them as standard equipment, I wish to say to the open sight brethern, "Don't take that statement too much to heart." Before you run for the hammer and punch to rid yourself of these sights, let's take the cases of two hunters who never read that statement.

Buck was one of the top flight deer shots with whom I hunted for some years. He shot a 32 Special Winchester carbine with the old blade front and V notch rear supplied by the factory years ago. The kind that is supposed to be especially impossible. Buck had a weakness for neck shots and made them under favorable conditions with surprising regularity. Being also a fine hunter most of his shooting was around 50 yards though I've seen him take them at 150 yards when he had to. Buck's score, I know, was in excess of 50 deer. How many more I do not know as that was years ago. Later he bought a 270 bolt action with micrometer receiver rear but never could shoot it as well. Finally he went back to the battered old Winchester carbine.

Then there was Ally, who was about the best running deer shot taking them as they come, brush or open, that I ever ran across. The gun that Ally used throughout the years that I knew him was a 30/30 Winchester rifle equipped with a gold bead front and flat topped U-notched open rear. I should hesitate to guess the number of deer that combination accounted for but 100 would be far too conservative. That was in the days when venison was a staple article in the mountains along with Arbuckle's coffee and the Game Protectors traveled on horseback. Equally good as a hunter who knew both his country and his game, most of his shooting was well under 100 yards.

I might go on with innumerable individuals who were fine shots on game and never used any other but open sights. This seems to refute the

statement that open sights will not hit what they are pointed at. I think the answer is both yes and no. It involves what is meant by good shooting. If it's making groups at 100 yards and over that the finest aperture sights are capable of the statement is correct. I have seen many 1 inch and 1½ inch groups made at 100 yards with the best aperture sights but have never seen open sights come close to this figure. However it would be equally as foolish to state that quite satisfactory hunting accuracy cannot be obtained with open sights. The important thing is to know the limitations and not expect the impossible.

One of the strong points of open sights is their speed. A poll of exhibition shots will speedily reveal that flat topped rears with a shallow V or generous U are tops for fast work. This means that they are at their best at short and medium range. Under best light conditions 150 yards is about their limit for reasonably good shooting. But the joker is that a change in light conditions can cut their effective range to a half or even less. Combined with a large bead front they may have a tendency to shoot away from the light as much as 4 inches per hundred yards. They can take more abuse than any other type of sights. Conversely they are harder to adjust than any other type. Those elevator slots are liable to give you anything between 2 and 6 inches per hundred yards. Windage is controlled by a hammer and a block of wood.

One drawback of even the best of rear open sights is that they cut off at least one half the view of the game and a full buckhorn will obscure a full three quarters.

The tang aperture or peepsight as they are called are probably the best from all angles on rifles that are adapted to them. They are fully as fast as the open sights. They can be seen earlier in the morning and later in the evening and under more adverse conditions then any other type of iron sight. The elevation can be adjusted much more easily than on any other type of open rear sight. Also, once adjusted, they can be locked by means of knurled jam nut on the stem. Windage is obtained by moving the front sight the desired amount.

The disadvantages are they cannot be used on rifles that develop severe recoil due to the danger of injuring the shooter's eye. They are the most easily damaged sights in the iron sight line.

The conventional receiver sights are not quite as good as the tang or as fast as the open rear. They can be seen in light that would make an open rear a mere guessing contest. They will not equal the tang sight in this respect however. They have a fine combination of accuracy with strength and the finest and easiest elevation and windage adjustments of any metallic sight. The best ones have micrometer readings.

Thus once set and reading taken you are sighted in for all time with that load under the same conditions. You can shoot two or more loads without unnecessary expenditure of ammunition by simply returning to the reading of the load desired. Quite an item at today's ammo prices.

The most accurate and strongest front sight is the flat topped iron blade. However light conditions in our mountains make it the least desirable. It is hard to see in the poor light that is usually encountered in the field.

The gold bead is one of the best. It is strong and can be easily seen under most field conditions. Sometimes in shooting away from strong light it is difficult to see. Ivory beads are easy to see against any back ground except snow. Their main

drawback is that they are easily broken.

One of the most conspicuous of all front sights is the red bead. It shows well in all lights. An important thing to consider in front sights is to be sure they are flat faced. Any round bead is apt to be off if the light favors one side too strongly.

It cannot be stated too strongly that regardless of the type of sight the most important factor is that the sights be adjusted properly to bring to bear the maximum effective range in relation to the size of the target. I have seen it stated that not more than one gun in ten in the woods is well enough sighted to allow its owner to hit a standing deer broadside at 200 yards. I believe this is largely true.

The average man takes it for granted that the factory sights the gun in before it leaves the factory. This is true as far as it goes. If he checks at all, he usually puts a can on a stump at camp and takes a shot offhand. If the can is struck, the gun's all right and that's that.

What he does not know is that at the factory the gun was sighted in for one man, one brand of shells and one bullet. It's not uncommon for a change in any one of these factors to change the point of impact as much as 8 inches at 100 yards. Be sure you sight in your own rifle.

Now let's see how we go about sighting in a rifle. To start with, a bullet does not fly in a straight line. It starts below the line of sight in a curved path. It first cuts the line of sight at short range and rises above it until it descends and cuts the line of sight the second time. The height it rises is called the trajectory. Where it cuts the line of sight the second time is the range the rifle is sighted in for in yards.

Now the ideal sighting is the farthest range a gun may be shot that the bullet will not rise high enough to miss the target at any point in between. This represents the so called point blank range.

Example: Take a rifle in the 2200 ft. sec. velocity class, such as the 30/30 cal. The gun should be sighted so the bullet first crosses the line of sight at about 12½ yards. It will then shoot 2 inches above point of aim at 100 yards. It will strike the point of aim at 150 yards and be 2½ inches low at 175 yards. Thus on deer you can hold dead on up to 175 yards.

The 30-06 with 180 grain bullet sighted to cut the line of sight at 12½ yards would be 2.4 inches high at 100 yards and strike the point of aim at 200 yards. Other velocities and bullet weights in the same class will run approximately the same.

The one rule to remember in sight adjustment is—Move your rear sight in the direction you wish your shots to strike; the front sight in the opposite direction.

. . . *The End*

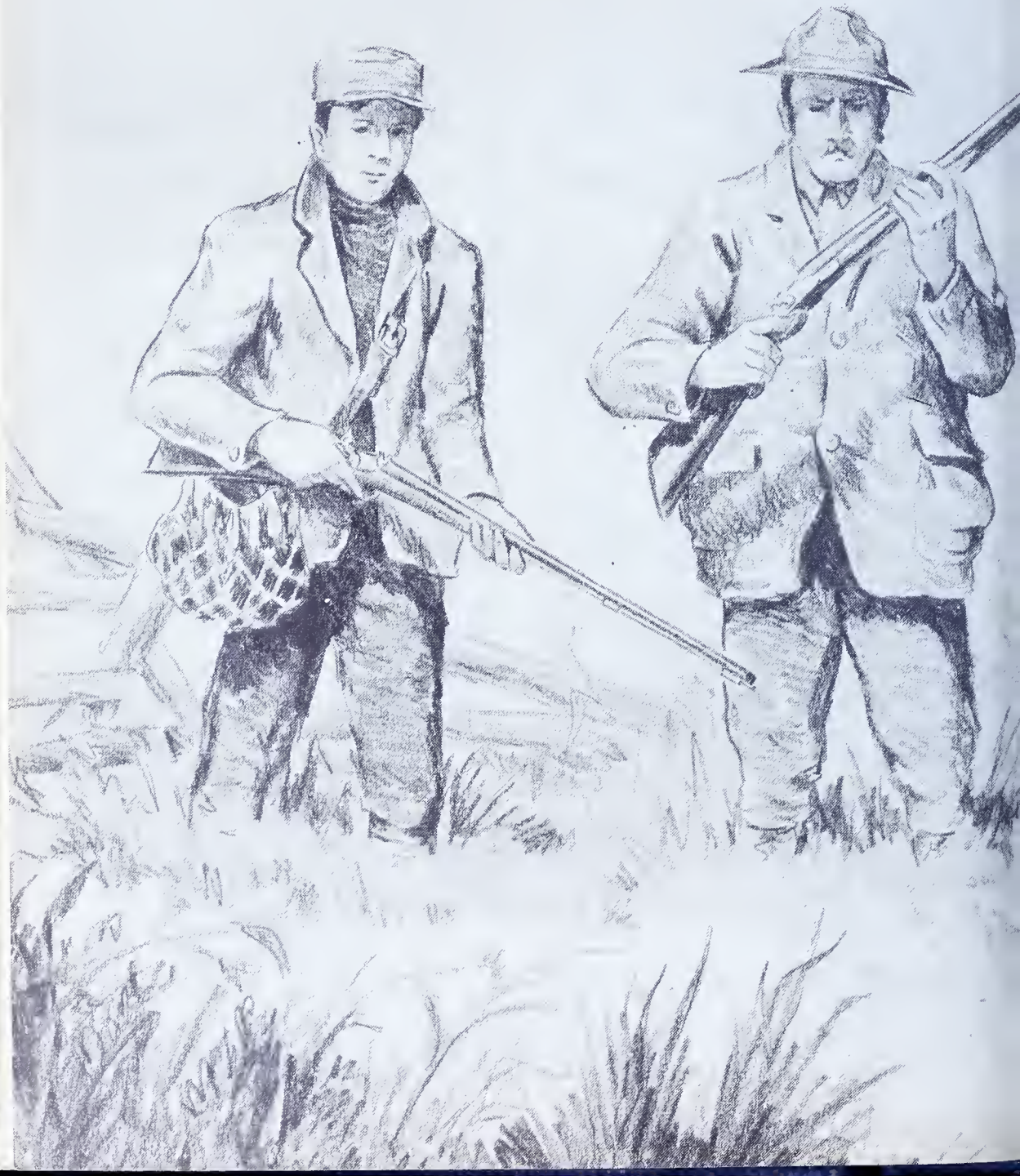
IT PAYS TO REPORT HUNTING ERRORS

Hunters who mistakenly kill a bird or animal not in season because it appeared to them to be legal game may pay only 25% of the penalty and go their way with a clear conscience, without danger of having their hunting license revoked.

All a sportsman must do in such a case is to remove the entrails of the bird or animal killed in mistake and, within 24 hours, deliver the carcass to any State Game Protector, who will take a sworn statement describing how the bird or animal was killed in error.

Hunters who observe intentional or malicious violations of the game law will prove themselves good citizens and guardians of their future sport if they report illegal game killing or property destruction to game officers.

PENNSYLVANIA'S WILDLIFE



(Continued from November Issue)

CHAPTER V

All That Glitters Is Not Gold

NOT all law enforcement problems in these formative years involved violence. Sometimes the Commission had to fight more insidious things than armed law-breakers. They had to solve such problems as individuals demanding special privileges or expecting immunity because of wealth or position; commercial interests which reaped a profit from game killed for the table and misled average hunters who were told and believed that the Game Commission was going to take their gunning away from them.

It is a matter of record that one of the strict policies of that Commission was that "No partiality should be shown to any living person for any reason." They really meant every word of it and were quite proud of their close adherence to that policy. There was no more room in the new setup for the wealthy lawbreaker than there was for the poorest Italian who killed robins for potpie.

A group of wealthy men, non-residents and members of an exclusive Pike County Club, got out of hand in 1902. They decided that the State game laws did not apply to them since they were private landowners and cited the Act of 1871 in support of their surprising claim. In view of their difficult attitude and their arrogant argument that they were beyond the law, the comment in the Game Commission report is a masterpiece of understatement. The report read: "This we feel, is not as it should be."

However mild its comments, the



Commission acted with typical firmness as well as with the typical lack of aid from the State in money matters. There wasn't enough money to fight the case in the Commission's Treasury, for it must be remembered they received only $1500 annually, so that the members had to collect money from private individuals to push the case to conclusion. Passing the hat was common practice in those early days, and apparently the Commissioners became quite adept in the art for somehow they managed to carry on and this case was no exception.

The Commission won its fight and the case was settled amicably the next year, when the club members admitted they were wrong and did not understand the purpose of the law. There have been no claims of exemption from game laws because of private land ownership since that time.

Another instance where wealth and prestige were used as pressure to gain special privileges came from a group of wealthy hunters who considered themselves sportsmen and gentlemen and would have resented any other description. They consistently violated the law of 1897 which made it illegal to kill for the purpose of selling most of the game animals and birds of the state and which forbade the shipping or removing such protected species beyond the limits of the State.

Things reached a climax when six of them, New York residents, came into Pennsylvania with 18 rabbit and bird dogs, fine English guns and a disregard for the law. They hired natives to shoot for them, they violated the limit law and they shipped woodcock, grouse and rabbits out by the hundreds.

Their luggage was examined when it passed through Wilkes-Barre by train, and in their trunks and bags were found 55 grouse, 15 woodcock and a number of squirrels and rabbits. The guns and the game were confiscated but the men were not with their belongings. Therefore when it was decided to prosecute them the Commission had to start extradition procedure.

Since the men had come from New York, the Commission officials went straight to Col. Theodore Roosevelt, then governor of that State. The Governor was a great hunter and thoroughly conservation minded and he agreed to sign extradition papers. He further informed the officials that if Pennsylvania sent an officer after the culprits he would see personally that they obeyed the orders despite their wealth.

The Pennsylvania officials also got in touch with Dr. William T. Hornaday and George Shields, editor of "Recreation" magazine and several other influential persons. Through the combined efforts, the men were brought back to Wilkes-Barre and fined $666 in a case settled out of court. This is believed to be the first instance of extradition in game law matters.

The Game Commission r e a l l y meant business and proved it in every action. State Senators and Representatives were fined for violations, and influence meant nothing, pressure meant nothing, not even when it struck at the livelihood of its commissioners. For instance, several officials of a large coal company which placed thousands of dollars worth of business annually with Commissioner Phillip's Manufacturing Company were arrested for shooting ducks on Sunday from a power boat. One of the top officials phoned Phillips, confident that he would have the charges squashed since his firm was such a good customer. "They were guilty weren't they," Phillips demanded of the caller. "Then I can't do a thing." They were firm in their convictions and proudly reported that they were happy to say they could look every

man in the eye in the knowledge that no partiality was shown to any person for any reason.

Another class, the market hunters, began to feel the pinch of laws that were being enforced with vigor. The market hunters and the dealers who handled game for them always considered themselves safe from prosecution because many of their best customers were prominent politicians or influential persons—and, besides, the non-hunting public, not realizing the serious effects of selling wildlife for food, become indignant when such delicacies as quail, woodcock and grouse were denied them. They sided with the market hunters and helped them circumvent the law because they thought the poor fellows were being persecuted in their efforts to make an honest living.

N. M. Beck recorded a typical case in his book — "Fifty Years With Grouse Dogs and Men in the Woods." There was a notorious game dealer in Wilkes-Barre who openly defied the law, received birds from market shooters and sold them as "brown ducks." Conservationists were making an effort to bring back quail in the area and bought 50 birds from the midwest for stocking. They did very well in one section and 10 coveys were known to contain 100 or more birds.

The brother of one of the State Senators at Harrisburg was giving a dinner and he sent an order for quail to the Wilkes-Barre game dealer. The dealer sent out two market hunters and they killed nearly 70 of the quail that had been nursed along so carefully by the sportsmen. Furthermore, the shooter and dealer got away with it because no one had any legal proof of what they knew to be a definite fact.

So the sportsmen sent for the ubiquitous and colorful Game Protector Joe Berrier. Joe went to Wilkes-Barre and got a job with the game



dealer, who did not know him. In two weeks, he had complete legal evidence against the whole outfit and the market man was practically put out of business.

Market shooters and misguided hunters of all sorts found a focal point in the Hunters' and Anglers' Protective Association which was headed by Sam Garland. It was organized for the express purpose of protecting its members from game laws and to oppose the work of the Game Commission and not for the protection of game as one might suppose. This association fought the Commission for years with both verbal and political ammunition. It printed a small magazine called—"Mount and Stream Journal," which was remarkable for the singularly untruthful charges it made against the Commission.

While the storms beat and buffeted the Commission from without, several stormy upheavals rocked the Commission within — Not all was

sweetness and light among the Commissioners. While they had to fight for their very existence they sometimes fought among themselves. The strong thing about these internal battles royal was the fact that each time the Commission emerged stronger and with its policies and form of administration more firmly entrenched.

The Sober incident in 1901 only a few years after the Commission was formed provides an excellent example. When the war on market shooters got under way trouble cropped up in the least expected quarters — within the Commission itself.

In 1899, Dr. Kalbfus, Secretary of the Commission issued an open letter from the Commission to the public, asking support of certain policies and he mentioned in passing that market hunters "started with the opening day of the season, and canvassed the country with horse and wagon until its close, moving as occasion required, and killing from 40 to 70 pheasants (as grouse were called then) a week, and even beyond that number. One man was reported to have killed 99 pheasants in one week, and another of making a total of 1400 pheasants for the season. Quail were slaughtered in the same way. Pheasant's nests were found by the aid of dogs and the eggs sold to photographers at high prices, because of the valuable quality of their albumen."

Coleman K. Sober



The names of the other Commissioners were on this letter expressing disapproval of market gunning—William M. Kennedy, President; C. K. Sober, of Lewisburg; James H. Worden, Harrisburg; E. B. Westfall, Williamsport; Charles Heebner, Philadelphia and I. A. Stearns, Wilkes-Barre—but one didn't belong there. Surprisingly, one of the Commissioners didn't see anything wrong with market hunting and, in fact, approved of it. This man was C. K. Sober and his policies in general were so in variance with the Commission's that they led to a blowup and a knockdown, drag-out verbal battle in which Sober was put in his place. A special meeting was called for the afternoon of February 5, 1901 in Harrisburg by President Kennedy. Other Commissioners present were: Westfall, Sober, Worden, Dr. Penrose and Secretary Kalbfus.

Kennedy didn't beat around the bush but came directly to the point. He said he had called the special meeting because the Commission was not in accord on several bills, namely, regulating market hunting, the season and bag limits on birds, and forbidding the sale of game, and that he wanted to know where each Commissioner stood. Sober alone said he wasn't in favor of all parts of the bill, but added that the only feature he actively opposed was the limit on Pheasants (grouse) in the general game bill.

Sober denied circulating, or having circulated, petitions in his home town requesting repeal of the law prohibiting the sale of game and fixing the number that could be killed each day. Secretary Kalbfus then said that he had read a petition on file in the Executive Department asking that the game season be extended on both ends of the calendar, that the kill

limit be removed, that the sale of game be allowed in the State during open season, and that all appropriations be refused the Game Commission. When asked directly, Sober denied that his name was on the petition but admitted that he had signed the letter conveying the petition to the Governor.

"I filed that paper at the request of my constituents," Sober declared.

Dr. Penrose replied rather stiffly: "For my part, I do not feel that I represent any constituency. I am a Game Commissioner—to do what the law directs for the interest of the State in the line of game and bird protection."

The meeting then descended to personalities. A letter was cited in which Sober asked a State official to use his influence to hold the general game bill in committee, and which also reflected upon the personal character of several of the Commissioners. "Quite lengthy remarks were made upon this subject by the members accused, Mr. Sober making no reply," the old minutes read very sedately, but the Commission must have crackled and sizzled from the violence of those "lengthy remarks."

Sober was further accused of saying verbally that he was fighting the game bills, that he was in touch with the game dealers who had raised a fund to defeat all measures the Commission might introduce, and that, unless the limit on pheasants was left as it was in the Act of 1897, he (Sober) would help to knock h--- out of the whole business.

Sober said: "I deny that. Is that sworn to?"

Worden replied that it was not sworn to, but if Sober insisted on denying he made the statements it could be sworn to within 10 minutes. Sober made no reply.

President Kennedy then delivered his opinion. "Mr. Sober," he said, "from what has developed here it is very evident that you are not in accord with the other members of this Commission. Aside from the personal matters which you have seen fit to introduce, it does seem to me that your action has at least made it exceedingly unpleasant for the rest of the members to meet with you in the further discussion of these matters. Under all these circumstances, don't you think it would be better for you to make your fight from the outside rather than the inside of this Board? Do you think it will be pleasant for you or for the rest of us to meet together after what has taken place?"

Proceedings of the meeting were sent to the Governor without comment and we know what the outcome was. Market hunting and the sale of game was licked.

When considered in retrospect, the Sober incident was of major importance because out of it came these several things: That each Commissioner represents the entire State and not just the section from which he was appointed; that the Commission acted thereafter in unity, ironing out any difficulties among themselves in private and not in public and that market hunting was discontinued.

The Commissioners have since followed a sharp policy of representing everyone and not just those hunters from their home town sections. There have undoubtedly been hundreds of arguments and disagreements among members since that incident years ago, but when the Commission acts now, it acts as one man.

Such were some of the early trials and tribulations of the Commission.

. . . *To Be Continued.*



A Lesson in Rabbit Management From Missouri

There is a lesson in rabbit management in a recent news release from the Missouri Conservation Commission, the Wildlife Management Institute believes.

Many sportsmen believe that the only way to improve rabbit shooting is to import rabbits from out of the state and dump them into local coverts. Because the cottontail is subject to a number of diseases which can be transmitted to man, most states either forbid or carefully regulate the introduction of out-of-state rabbits. Hunters are inclined to grumble that this regulation undermines their sport. Meanwhile, Missouri has just announced last season's bag of 3 million 500 thousand rabbits as an average annual take. The Show Me State not only does not introduce rabbits from outside its borders, but last year commercial hunters and trappers took an additional 744,260 animals for meat and for live sale to other states.

How can Missouri maintain this staggering production? Only because the fertile farms of the state provide habitat that is ideal for rabbits. If sportsmen, instead of trying to force two rabbits to live in cover that now can support only one, would improve local coverts so that they can carry two, four, or ten more rabbits for every one living now, the rabbits themselves will take care of the restocking.

Wisconsin Studies Effect of Crop Sprays on Pheasants

Sportsmen and game officials have been worried about possible effects of powerful new insecticides upon game bird populations, and Wisconsin now has taken steps to determine the reaction of pheasants to three common crop sprays, according to the Wildlife Management Institute.

For four weeks, pen-raised pheasants were kept on a diet of food treated with DDT, Chlordane, and Toxaphene in doses which were calculated to be in excess of those which would be available to wild birds feeding in freshly sprayed fields. Birds fed DDT and Chlordane maintained weight and appeared normal, although autopsy revealed some liver damage. Loss of weight was noted in birds which were kept on a diet treated with Toxaphene, but since this material acted as a repellent, most of the loss was attributed to reluctance of the birds to eat the substance.

Since the birds ingested much greater quantities of the chemicals than they would under normal conditions in the wild, the findings of the experiment, made by William B. Jackson of the Wisconsin Conservation Department, are encouraging. Even slight liver damage was not so severe that it could not be repaired after insecticides were no longer eaten. Under field conditions, the washing action of rain and the disintegration of insects killed by the poisons would tend to dillute and dissipate concentrations of chemicals within a short time after spraying operations.

The gate which for years closed off to vehicular traffic through State Game Lands 110 on top of the Blue Mountain in Berks County was recently opened for a tour of inspection by sportsmcn and other interested persons. Seated in the car above is Albert Bachman, Land Utilization Assistant from Reading, who has charge of the food and cover development on the 7400 acre tract. At the gate, left to right, are Game Protector John Spencer, Schuylkill Haven; Roy Trexler, Division Conservation Assistant; Game Protector Billy Drasher, Tamaqua; Game Protector Elmer Turner; and Jack Richards, Rod & Gun writer for the Pottsville Republican newspaper. Below—a view of the more than 1300 cars which brought 6000 people to see the work on their Game Lands.

Director's Message Welcomes Non-Resident Hunters

Hunters who came to Pennsylvania to enjoy their sport this fall received a letter from the Game Commission's Executive Director Frye when they purchased their license.

In this letter the Director wished the visitors pleasant and successful days afield, reminded them to read carefully the instructions that accompany their license, advised that Pennsylvania's game protectors are friendly but firm in their enforcement of the law, and finished by admonishing the out-of-staters to hunt safely so that they might return home with only pleasant memories.

The letter was couched in warm, friendly language. It aimed to bring about better understanding and more cordial relations with visiting gunners. It should result in greater hunting safety and better observance of the Pennsylvania hunting regulations.





By GRACE O. BEACH

Me-and Santa Claus

RED is a safety color. An outstanding example to prove this point is good old Santa Claus. He has come safely through the centuries. Xmas bill laden males have secretly yearned to take a pot shot at him many times. That bright red suit stops them cold. No gunner could ever get away with mistaking the genial gent for any thing but what he is.

Taking a leaf from the longest safety record in the world the writer goes big game hunting attired like Santa in bright red from head to foot. As one hunter wearing a similar bright red outfit remarked as we met in the hunting field, "Well, they won't mistake us for a deer, that's sure." And he was right. It makes one reasonably safe from trigger happy gun toters.

Contrary to general opinion, deer don't seem to mind in the least. Apparently they are not one bit allergic to the color. This point was proven to our complete satisfaction during the last deer season in a thrill of a lifetime experience.

My hunting pal, wearing a "coldfire" safety vest and red hat, and the writer in Santa Claus suit had just climbed an exceptionally steep ridge. We were at the huffing, puffing stage and needed a bit of rest. We sat down on a log in an unsheltered spot in plain view of any one roundabout. We were enjoying the view and recuperating, when we heard the crackling of brush at a distance. Immediately we were on the alert and sat with bated breath, waiting.

The crackling of underbrush and crunching leaves grew louder on the frosty air. The noise came nearer and nearer. The old heart beat like a trip hammer. We had seen fresh tracks of a good sized bear along the edge of the creek below earlier in the day and we didn't know just what might be heading in our direction. Who wants to have a bear pop around the corner in deer season?

Finally, to the left and just below us six doe and a spike buck came into view along the side of the slope. They browsed along toward us and then seemed to sense something wrong. They all startled to attention and looked directly at us, sitting there on the log.

We fully expected them to bound off any moment, but after a time they must have decided we didn't look too harmful and they went back to feeding. They moved closer and closer. Finally, they were directly in front of us. My buddy, who was nearest could have reached out and touched them with her gun. At this point they stopped. Their heads went up, their ears alert, straining for any sound, the nostrils distended, the whole body aquiver with nervous tension. They stomped in alarm, pawed the ground and snorted. Then they were still again, every nerve in the body, listening.

There they stood, a picture of living beauty we'll never forget so long as we live. There we sat, two females thrilled beyond power of description —just as tense and probably more frightened than the deer. Why our thumping hearts didn't frighten them away we will never figure out, but they didn't. The deer settled down and moved away, still on the alert, until they rounded the other side of the hill.

When they had disappeared from sight we both relaxed and found we were, back to the huffing, puffing stage again. Laughter exploded on the

air above us on the ridge, that had a strangely familiar sound. The male members of our party had witnessed our show and were getting a huge kick out of the whole affair. Who can blame them. Husbands do have a sense of humor.

If any of the readers are interested in a hunting suit, they can find an exact duplicate of the red suit worn by your editor or they can be had in three plaid patterns, with caps to match. The prices will vary somewhat but will be in the neighborhood of $45.00 for the outfit. There are plenty of pockets, girls, for lipsticks, lunch, and what have you.

Foot comfort is important and especially so in cold weather. Be sure to purchase good wool socks that are shrink treated and stasized, the type that will not matt but stay soft and pliable.

Let me give you a little tip. Pull cotton socks over the wool socks. They will draw the moisture away from your feet and absorb it. That helps to keep your feet warmer. An added help is a pair of insoles for extra insulation against the cold ground. Do choose comfortable shoes, and get them big enough to accommodate wool socks and insoles.

Mittens are warmer than gloves and you'll find them at the Sporting Goods Stores with split palms for easy shooting. Incidentally, if you should purchase the red suit, the experience related above doesn't come with the suit.



Just A Hint

About this time of year everyone is wondering what to get everyone else for Christmas. The little lady is puzzling over what to get for her sportsman husband. He is equally as disturbed about what to get the little woman. Then there are always those special friends that you want to give something just a little different.

Your writer had a similar problem to solve and went on a tour of the shops for some ideas. Maybe some of the notes jotted down will be just the hint you need to complete your shopping list.

Of particular interest were the new thermos bottles made entirely of stainless steel. There are no glass liners to break and they are built to stand hard usage. A pair of these bottles and a sandwich box are enclosed in a nylon kit with rubberized lining. They cost around $35.00 and would make an excellent gift. Incidentally, these thermos bottles can be purchased separately in quart sizes at $9.95.

Less expensive and equally as useful are the picnic kits containing two regular type thermos bottles and sandwich box in a zippered case. We have never had anything in our family that has given us more pleasure. They go with us on car trips, picnics and all trips afield. This kit costs about $15.00.

Another item that would make an interesting gift is a branding iron. It is custom made with three initials and can be used to personally mark your sporting goods, camping equipment, boats, oars, leather goods, plastics of all kinds and the childrens toys. This article will cost $3.50 and should be ordered early.

A clever gift and one that will be appreciated on a cold day are the hand warmers. They are especially welcome in the hunting field, the duck blind or at a football game, in

fact any place you want to be comfortable in uncomfortably cold weather. These warmers fit into the palm of the hand and will not set fire to clothing. They provide instant heat, are easy to fill and one filling lasts all day. Lighter fluid is used for fuel in these handy gadgets. They cost $2.95 each and a pair is just right.

A sports heater is always a welcome gift for sportsmen. They're ideal for cooking or heating in small cabins, tents, trailers and many other uses. One the writer looked at is made of stainless steel, will stand tremendous heat and is very durable. It burns kerosene, requires no pumping or priming and is odorless. One filling lasts for 12 hours and it costs around $12.00.

There is a new plastic flask on the market today that would appeal to many men. It is unbreakable and has a shot glass top. It will cost $1.50.

Don't overlook the good books on the market for sportsmen and sportswomen alike. The Hunter's Encyclopedia is an outstanding example. It is a large volume filled with information on hunting methods, game and their habits, in fact, almost any subject the hunter might be interested in, and its cost is $17.50.

There is also the Dog Encyclopedia by Henry Davis which sells for $10.00; The American Deer Hunter by Francis E. Sell at $3.95; Everyday Ballistics by Charles S. Cummings II, at $2.85; Shotguns by Keith at $5.00, and Trees of Pennsylvania by William C. Grimm at $5.00.

These are all recent books on subjects interesting to every sportsman and women interested in hunting.

Now for one last item and a very handy one for the men with electric razors. There is on the market a plug-in dry cell battery for use with electric shavers when there is no electric available. For camp trips, vacations, and such emergencies this is just the answer. They will provide one month of daily shaving and weigh about 10 to 15 ounces. They cost $3.95.

The writer hopes some of the suggestions offered will be helpful to the readers. Of course don't forget guns, hunting suits and all types of sportswear are also to be considered.

Happy shopping and a Very Merry Christmas and Best wishes for the New Year.

Venison Dishes

Have you a deer in your home? If you do, make the most of it.

It is a royal dish when properly prepared. Here are some tricks that will make your venison dishes long remembered treats. The saddle roast is tops. It is the meat on the back over the ribs. Marinate a saddle of venison in a mixture of 1 1/3 cupfuls red wine and 2/3 cupfuls of water seasoned with pepper, bay leaves, a little thyme, some mustard seed and sliced onion. Soak about twenty-four hours turning in the mixture occasionally so that it penetrates. Remove the meat from the mixture and insert a few tiny slivers of garlic in the saddle. Salt to taste and roast at 350 degrees basting with the marinate mixure and drippings until brown and tender. Remove the meat to a hot platter and add to the gravy in the pan one glass of currant jelly, ½ cup of sour cream and 1 tablespoon of brandy. Stir this mixture over a high flame until it thickens into a gravy that is one of the finest you have ever eaten. Surround your roast with sliced oranges and spiced pears. Get out your finest dishes and company fixings to go with this royal dish.

. . . The End.



It's a Tricky Business

By L. J. KOPP

TRAPPING a fox is in itself a trick. Add to this the various drawbacks encountered in fox trapping, and you have a rather tricky business.

Fox trapping is done in what I will call "spurts." First, a trapper might begin fox trapping on October 15th. At this time one has to be aware of training season; however I have personally never had any trouble with hunting dogs getting into my fox traps. Most dog trainers either have access to special dog training areas, or will not take their hunting dogs very far afield, since most of them are aware of fox trapping being done. So a fox trapper runs his 'line until November 1st, when small game season opens. A spurt of about two weeks in other words.

After a week passes, the hunting enthusiasts will have simmered down, and so the fox trapper again ventures forth with his traps.

This time the spurt runs for about three weeks, after which deer season is open for a week or so. After the deer season closes, the fox trapper again sets out his traps.

Generally speaking, the two weeks of fox trapping in October account for a large percentage of the season's fox catch, provided of course that the weather is fair.

In the event of rain, the fox trapper suffers a setback. A good rain is a fine thing once in a while, as it tends to wash away any odors which may be present at your fox sets. However a continuous rain, or a drizzle lasting for several days will put a damper on fox trapping.

In the first place, foxes as a rule do not move about very much during rainy, or wet weather. This is especially true with the red fox. The grey fox on the other hand is more likely to move about if rainy weather should persist for more then two nights.

Not only does rainy weather put a damper on fox trapping, but it brings out the skunk and 'possum. When a skunk or a 'possum is caught in a fox trap, the only thing to do is remove the trap, and take it along. It certainly cannot be reset in the muddy dirt. However if one has a supply of dry dirt along on the 'line, the trap can, of course, be reset, and covered with dry dirt. Otherwise the trap is taken along, and the set is left until it drys sufficiently so that the trap can be set back in place.

And so, considering the fact a fox trapper is disturbed at least twice in a season, plus the affect of weather conditions, we can well imagine that fox trapping has its disappointments, along with the thrills.

Now that cold weather is here, the fox trapper has to put up with frozen ground, let alone thawing in the daytime, and freezing again at night. To overcome this, it is a good idea to supply yourself with a box of dry ant hill dirt. Carry a small bag full along with you on the trapline in your packsack, so that when you have a catch in one of your traps, you can use this dry ant hill dirt to reset the trap.

The trap bed should be lined with about a half inch of dry dirt so that the trap will not freeze solid to the

ground. The trap is then covered with about one half inch of dry dirt.

Some trappers use peat-moss for trap covering material. This however has several disadvantages. First it is very light, and when it's windy your trap may be uncovered very shortly. Second, it does not blend in with the natural ground surrounding your set. Some trappers help to eliminate these disadvantages by mixing peat moss with dry dirt.

When dry ant hill dirt is put in a box, it should be sifted so that when you want to cover a trap you need only to pour some over the trap, and spread it with your trowel.

Care should be observed when getting this supply of ant hill dirt. Do not merely scoop it up from the top of the ant hill. It is possible that there may be some unwanted odors on such ant hills. It is best to dig a hole into the ant hill, and get it out from inside the hill. In this way you are assured of not only very dry dirt, but you can be sure that it is free from foreign odors.

By using such dry dirt as this, you can trap foxes in the very coldest weather. When covering the trap, take your trowel and spray a thin layer of this dirt around the bait hole, and to all sides of the set so that the ant hill dirt will more or less blend with the rest of the ground. A small cloth dag which has been thoroughly aired may be used to carry dry ant hill dirt along on the trail.

In fox trapping there are a number of interesting, and debatable questions which help to confuse the beginner, but which help to make fox trapping even more of a tricky affair for the expert fox trapper. One of these questions is: Which is harder to trap—Red or Grey fox?

A great deal depends on which of the two species predominate in a given territory. Just because a trapper catches more grey fox then red, does not necessarily mean that the latter is more difficult to trap. On the other hand, if a trapper catches more red foxes, it does not mean that he is a better trapper then the fellow who catches mostly greys.

In a section where grey fox predominate you would most likely catch more greys, and visa versa.

It is quite possible that a trapper who traps where grey foxes predominate would conclude that red foxes were hard to trap, simply because he might catch one only now and then. In the event that there is an equal amount of both species of fox in your territory, it is a matter of which kind happens to set his foot on your trap first.

Sometime ago I read in a national magazine where an expert trapper stated that in order to catch more grey fox, one should be a little careless in making sets. That is confusing even to an expert fox trapper.

Never make your fox sets in a careless manner, regardless of what the expert trapper tells you. Take your time, and make all of your sets right.

There is no such thing as making your set especially for grey fox, or especially for red fox. The way to do it is to set clean traps, cover them properly, use good bait and lure, and be careful in general. I assure you that what you will catch depends solely upon which type of fox happens to visit your set first. I can also assure you that if you make your sets in a careless manner, in the hope of catching only grey fox, you will catch no fox at all.

I have heard trappers say that by using grey fox urine at your sets, the red fox would not come near. Personal experience on the fur trail tells me this is incorrect. In fact I just recently caught a large dog red fox at a set where I had taken three grey fox the three nights previous. I am sure there was plenty

of grey fox urine all over the set.

Inspecting traps after they have been set is another important part of fox trapping. According to some trappers, you should stop breathing when you come near your fox sets in order to avoid leaving human odor around. Others would have you believe that you should not even go near the place.

When inspecting your fox traps, always approach them from any direction except from directly in front of the set. I mean by this that you should not approach your sets so that you can see into the bait hole. This is how the fox will come to your set, in such a manner that he is able to look into the bait hole as he comes near. You should approach a fox set from the side, or from behind the bait hole. By doing this you will not leave a path which could be detected by the fox as he approaches.

It is a good idea to go only as far as is absolutely necessary when inspecting traps. For example: When you inspect a fox set in an open field, walk along the edge of the field until you are opposite your set, then walk towards the set from either side, or from behind until you can plainly see the set. If no disturbance is evident, turn around and walk back the same way. Do this same thing each morning. Do not come to your sets from different directions every morning.

It is well to do some looking about you before making a fox set. Many times you may make a set, and next morning you find that you have to go right up to the set before you can be sure of a catch, or before you can see your set. It is often possible to shift your set around a little to some other location a few yards away where you can inspect it without going so close.

It would not surprise me if some unseen spectator would look upon a fox trapper as being slightly off the beam, should he happen to watch an average fox trapper going about his business. Oh well, little does he know that fox trapping is a tricky business.

. . . *The End*



PGC Photo by Batcheler

Trapping foxes tests the skill of the trapper like no other form of outdoor endeavor. The intelligence of the fox indicates a quality of mind above mere native half-instinctive knowledge and the animals display notable quickness in meeting new problems.



Spaniels— The Family Dog

By HERBERT KENDRICK

DESIRABLE characteristics of the Spaniel have been greatly accentuated through selective breeding, careful handling and intelligent training, thus making this attractive working animal come into its own as a utility gun dog. The very capable Springer and the energetic Cocker have fast overcome the stigma placed by lap dogs and showmen, and now have achieved great popularity by their performances in the gunning field. The baby's playful pet, the mother's desirable companion and father's pride and joy can be an affectionate part of the family, enjoying house privileges and still earn his laurels as a successful handler of game birds and animals.

Spaniels possess a great natural tendency to hunt and it is rare to find one that does not love to retrieve; however, the flushing spaniels are not gifted with a pointing instinct, thus it is necessary to train the dog to restrict his range to within thirty yards of the gun so that when he flushes game, the gunner will be able to make clean kills.

When it comes to hunting in dense, close cover, these working spaniels are very valuable companions. The springer is large enough for the toughest cover, has considerable speed and when in condition his endurance is almost unlimited. The cocker may lack size but his speed, heart, courage and intelligence certainly make him an efficient game searcher.

The properly trained cocker is bad medicine to the ringneck because the running tactics of the rooster do not work so well when the cocker strategically maneuvers him into a position to give him an energetic yelling rush. The frightened bird cannot risk staving on the ground with so much activity so close at hand.

Springers and cockers are used very successfully on grouse, woodcock and rabbits. I have heard of a few that have been used on quail but in wide open quail country, the pointer or setter is best suited because he covers a wider area and saves his master many steps.

Since it is impossible to cover the subject of spaniel training in so short an article, I would like to mention some of the qualifications of spaniel gun dogs. First of all, he must obey every command of the hunter. He must sit or "hup" when game leaves the ground and wait in that position until the gunner orders him to fetch dead or to resume hunting if the shot was missed. He should hup at command and also at the report of a gun.

The spaniel must carefully hunt all cover patches large enough to conceal game on each side and in front of the hunter and use the wind to best advantage. The well-trained dog quarters well and obeys whistle and hand signals. He diligently searches game, locates it, flushes, finds and retrieves the kill whether it be on land or in water. The superlative field performers are, of course, the highly intelligent, keen nosed, well formed, healthy, courageous and best trained animals.

The spaniel owner need not be as enthusiastic a hunter as the man who owns pointers or setters to share with his dog the joys of hunting. In other words, we assume that when one buys

an expensive setter and trains him well, he intends to take his hunting very seriously. Now the man who acquires a spaniel may do so because he wants a pet in the house and yet this individual may train his pet to hunt and spend many pleasant hours afield in and out of season even though the dog may not be a perfectionist in the art of hunting. The outdoor experience is beneficial to the dog and master alike. Exercise, fresh air and relaxation are healthful indeed and allowing the dog to put up birds helps to train him and at the same time teaches game to escape (as if they needed experience!) so that they will be more able to take care of themselves on opening day.

The youngster just learning to hunt, the occasional hunter and the specialized gunner all thoroughly enjoy the friendly, lovable spaniel and he is today taking his rightful place in this greatest of all outdoor sports.

Spaniel enthusiasts, who experience too few legal days in the field, have turned to spaniel field trials for supplemental activity for their dogs. Spaniel trials have accomplished for their breed the same benefits that our quail and grouse trials have achieved for the pointers and setters. Better breeding, more brains, faster action, accuracy, obedience and style are the enhanced qualities developed by the keen competition of field trials. Spaniels are great to own whether you use them as pets, hunters, field trials, water trials or showdogs.

The Brittany Spaniel is gaining popularity in many states where the going is tough. He points his game, is an excellent retriever, and ranges close enough to be valuable in dense cover. This fine dog will continue to grow in the hearts of sportsmen as a wise choice for the man who wants to own only one dog.



Photo Courtesy Evelyn Shafer

Spaniels, usually better known as children's pets and family companions, are gradually gaining the recognition they deserve in the gunning field. Most spaniels possess a great natural tendency to hunt and it is rare to find one that does not love to retrieve.



Hellertown Sportsmen's Association

The annual Farmer's and Family Night of the Hellertown Sportsmen's Association was held on October 24th. Edward M. Borger, District Game Protector, was the principal speaker. Borger stressed hunt safety and urged respect for the farmer and his lands, suggesting that most posted land is caused by vandalism and reckless hunting. A firearms safety picture was shown and Larry Knoblach, narrator for the Phil Neuweiler big game pictures, presented four movies. The pictures were shown in behalf of the "Smokes for the Yanks" campaign and a purse of thirty dollars was given to this worthy cause. Joseph Check, local archer, gave a daring exhibition of indoor shooting with the bow and arrow. Twenty door prizes, donated by local business merchants, were given away to members and friends. All farmers present were given safety zone signs and were assured care would be taken by members while hunting on their properties.

Avella Sportsmen's Association

The Avella Sportsmen's Association released 124 ring-neck pheasants late in September under the direction of District Game Protector Ray Doerzbacher and his deputies on public hunting grounds in the vicinity of Avella. The Club retained 87 hens for spring release. The birds released this fall were banded with numbered aluminum bands and club secretary, Albert Bogo, Box 493, Avella, requests hunters who kill the birds to return the bands and state the vicinity in which the birds were bagged. Bands should be sent to Mr. Bogo.

All Sportsmen's Trap League

The All Sportsmen's Trap League, comprising clubs in Allegheny and Westmoreland counties, has completed its fourth year of successful operation. During the past season eight clubs participated in the activities of this organization, listed in the order in which they finished the season, as follows: Crowfoot Rod & Gun Club of Wilkinsburg, Vercailles Rod & Gun Club of Murrysville, District Sportsmen, Rosedale Sportsmen, Western Pennsylvania Sportsmen's Club, Wilkinsburg Sportsmen, Pitcairn Patton Township Sportsmen and Braddock Sportsmen.

Club members met every Monday evening and shot 25 birds apiece. The top five from each of the clubs made up the score that represented the team score for the evening. In the 20 weekly matches there were a total of 1947 entries, shooting over 43,000 birds. The season average for the league was 19.424 birds per night. Through a small entry fee paid by each shooter each night, $200 in cash prizes were awarded through the Lewis Class. Trophies were awarded to the high club, a J. Quentin Reed Trophy to the High individual, a Wesley M. Hale Trophy to the five man high team, a Duquesne Company trophy to the high post-season shoot handicap shooter and each of the 5 highest men from each of the clubs received a special league brassard. The League held a "Hunters Special Shoot' in mid-October which was open to the public with four trap fields in operation. The League is headed by James Maxwell, president.



Dear Sir:

I have just finished reading your Special Issue Number 1 of the GAME NEWS. This is the best copy of the GAME NEWS I have ever read. I truthfully think that if every hunter (licensed or other) in the State of Pennsylvania were sent a copy of this September GAME NEWS and read it from the first word to the last, as I did, that they would come to their senses and stop worrying about signing petitions blocking the judgment on the regulations in regards to seasons on various game animals and birds. This issue has certainly given me a much broader understanding.

Yours truly,
ARVID B. NELSON,
RD 2,
Montoursville, Pa.

———

Dear Sir:

From time to time protests against rulings of the Game Commission are noted in Pennsylvania papers. Such protests remind one of neurotic persons who insist on diagnosing their own case and prescribing the doctor's treatment, justifying their actions by the fact that they pay the doctor and are therefore entitled to what they want. Interested observers in other states question whether such protests represent informed opinion of the substantial rank and file of sportsmen's clubs or the efforts of individual members whose desire for prominence exceeds their competence as leaders and policy makers.

The older hunters of Pennsylvania remember the popular resistance against the enactment and enforcement of game laws on the grounds that their "rights" were being invaded. Those who talked loud and fast swore, "No game warden will ever take me out of the woods . . . etc." The substantial rank and file, however, supported the conservation movement in a magnificent way with the slogan, "Every man a Game Protector," and Pennsylvania, with her Commission form of game management, attained top place as a game state.

Common sense suggests that close-knit Commission of men chosen for distinguished competence and integrity, serving without pay, free from political influence, with practical experience and scientific advice available to them, is more likely to be right in its decisions than a loose organization of sportsmen. It is a notable fact that policies instituted by the Pennsylvania Game Commission have demonstrated their merits and have been accepted not only by the substantial rank and file of Pennsylvania sportsmen but also by the game agencies of other states.

Game populations are limited by habitable areas and food supply. The harvestable surplus of a species may be maintained or even increased, but beyond a certain population density a species deteriorates in size and vigor. Starvation, disease and predation (by men and animals) then reduce and possibly destroy the species.

The weight of Pennsylvania deer as compared with New York and New England deer indicates that a better balance between population and food supply, and between the sexes, is re-

quired in Pennsylvania. Obviously the current ruling was designed for that purpose and the decision was somewhat overdue.

In the national picture decréasing wildlife resources and tremendously increased gun pressure suggest that the end of what we have known as open hunting for the average citizen is not far in the future. Never in the history have an adequate game supply and the privilege of hunting been preserved indefinitely for the citizen of small means. Such militant organizations as the Wilderness Society, the National Parks Association, the Ecologists Union, the Izaac Walton League and other forward-looking conservation groups are fighting a continual but losing battle to protect our dwindling wildlife resources from commercial and political exploitation—a battle in which sportsmen's organizations might well enlist, rather than quibble over details of management.

Pennsylvania is especially blessed with wildlife habitat and populations. The Commission form of game management is the model and aspiration of other states. With the facts available for all to see and with the once proud title of "sportsmen" at low ebb in public esteem, it seems that the substantial ranks and file of Pennsylvania sportsmen's organizations might well examine the vision and qualifications of their leadership.

J. R. Matson,
Perry, N. Y.

NORTHWEST SPORTSMEN

By Seth L. Myers

The annual controversy over Pennsylvania's deer herd is in full swing. Experts on the question are everywhere; in shops, stores, offices, on streets and any place one goes may be heard the expounding of theories for managing the deer herd. Every man has a right to his own opinion but should be able to prove his theory when attempting to upset the joint opinion of a group of specialists charged with the problem's solution.

Recently, I was pounced upon by a self-appointed expert on deer. He works six days a week in an office that has nothing to do with game management. He spends his two weeks vacation in Canada and where he got his ideas on our deer herd, I did not learn.

I asked him a few simple questions about the animal and his answers were pathetic. It is difficult to realize that a citizen of this state with its huge population of deer could know so little of their habits.

Those who know something of the problems confronting the Game Commission have little to say. They may not agree wholeheartedly with the Commission, but having nothing better to offer, are contented to place confidence in those research men working with the problem.

They take for granted that a Commission capable of having built up such a huge deer herd from practically nothing, is also capable of managing the herd to the best interests of the state and all concerned.

I've discussed the deer problem with a number of authorities on the animal, in our state as well as others. I talked with P. F. Hoffmaster of Michigan's Conservation Department, George Stobie, head of the Maine department, L. E. Riordan of Colorado, W. O. Nagel, Missouri, Perry Duryea of New York State and a number of other state authorities.

These nationally recognized conservationists intimated that we in Pennsylvania have some of the best men on deer research to be found. I am of the opinion they are watching us in hopes of gaining knowledge that will help them with their problems. And we may be sure Pennsylvania Commission officials a r e watching their progress just as closely.

Christmas Gift Suggestions for the Sportsman's Bookshelf



THE AMERICAN DEER HUNTER

by Francis E. Sell

174 pages. Illustrated with many full page photographs. Published by Stackpole and Heck, Inc., Telegraph Press Building, Harrisburg, Pa. 1950. Price $3.95.

This book is the result of a great amount of experience in hunting with an extraordinary degree of success. The contents represents the determination to set down the hard facts and the effective equipment and means for stalking and shooting the white-tail and his cousins. The book is highly original in its presentation. It is in no sense a rehash of previous discussions or formulae. The author deals at all times with actual problems of locating, maneuvering, and shooting and with the guns employed. Here are interesting and essential data on deer habits and on speeds and gaits. Here also is an extensive treatment of selection and care of weapons for deer hunting; the killing and dressing of game; and even on clothing for the deer hunter. All told, the book contains a wealth of information useful to both the veteran hunter and the novice.

GUNNER'S GUIDE

by George Baekeland

115 pages. With 12 clear line drawings and many tables. Published by The Macmillan Company, 60 Fifth Avenue, New York; 1948. Price $1.95.

This is a compact, concise, and clearly written handbook for the shotgunner prepared without frills or flourish but containing a wealth of information for the shooter who takes his sport seriously. The author has managed to fit smoothly into a little more than a hundred pages all of the essential facts on shotgun types, choice of loads, shooting form, in the field or on the Skeet field, and gun safety. There is an excellent chapter, which will be appreciated greatly by the beginner, on the selection of gun and load. While the experienced wing-shot will find many new and valuable facts in the pages of this volume, the beginner will find such a guide invaluable.

THE AMERICAN WILD TURKEY

by Henry E. Davis

328 pages. Illustrated with ten gravures by E. Stanley Smith, numerous photographs and line drawings, and a full-color frontispiece by Walter A. Weber. Published by the Small-Arms Technical Publishing Company, Georgetown, South Carolina; 1949. Price $5.00.

This is an excellent volume written in a clear and entertaining style on America's largest and most prized game bird, the wild turkey. The author freely admits that he is not a trained scientist, but his tremendous interest in the wild turkey began well over 50 years ago and much of the intervening time has been spent in studying, hunting, and observing his favorite game bird. He has interviewed hundreds of wildlife technicians and administrators, hunters, and preserve owners. From this life-time study has come this book, undoubtedly the most complete popular monograph ever written on this splendid bird.

No attempt has been made by the author to replace Mosby and Handley's classic and more technical work on turkey management, upon which, with due credit, he has drawn for material in his opening chapters. Rather he has produced a well-balanced volume written for the hunter and amateur naturalist which might serve as a popular supplement and extension of the earlier book. It contains all of the information, presented in an interesting and non-technical manner, that the layman needs to understand this bird and the problems of its management and preservation. Its pages are sprinkled with entertaining and informative personal anecdotes which the author has gleaned in years of studying his subject. It should be read and owned by every hunter.

HAWKS ALOFT by Maurice Broun

222 xiv pages. Illustrated with 11 photographs. Published by Dodd, Mead and Company, 432 Fourth Avenue, New York 16, New York, 1949. Price $4.00.

Blue Mountain, in Pennsylvania, once was a scene of bird slaughter unparalleled since the days of market shooting. In their migrations, hawks and eagles pass low over this prominence and proved easy marks for hidden hunters. These killings resulted in the deaths of thousands of beneficial birds each year in the name of "vermin control." Bird lovers had clucked tongues about the hawk shoots for a number of years, but no one did much about them until 1933 when Mrs. C. N. Edge, undoubtedly the most militant American conservationist of her sex, mustered her reserves and declared war by leasing the mountain and declaring it a sanctuary.

The supposedly hopeless task of protecting the sanctuary fell to a young naturalist and his wife. Since the establishment of Hawk Mountain Sanctuary, Maurice and Irma Broun have succeeded in turning local hostility into state-wide pride and apathy into international recognition. Hawk Mountain is a mecca for ornithologists, both amateur and professional; it is equally a mecca for the curious of all walks of life. As in the days of the hawk shoots, people still flock to Hawk Mountain, but today they come to study and observe. This is the story of the founding and development of the sanctuary, a story of courage and stamina in the face of heavy odds, of thronging students and sightseers in the warmer months and of solitary but never lonely vigils in winter. In this book by its curator, the story of Hawk Mountain, delightfully spiced with humor, is ably told.

OFFICIAL HUNTING BOOK
edited by Charles R. Jacobs

160 pages. Illustrated with more than 75 half-tones and numerous diagrams. Published by Crown Publishers, 419 Fourth Avenue, New York 16, New York. Price in paper cover, $1.50.

The subtitle of this new publication is "How, When and Where to Hunt in North America," and a panel of 14 of America's better-known sportsmen and outdoor writers tell the reader just that, as thoroughly as space permits. There are sections on duck hunting in all flyways, approved methods of hunting all popular game birds and animals, summaries of state laws, and discussions of conservation problems. In the latter category is the opening chapter, forcefully written by J. J. Hammond Brown, and articles by Philip Barske and Wendel Teague on the sportsman's role in the conservation of waterfowl. Nash Buckingham, Jack O'Connor, Major Ned Roberts, and James Stuber are among the many authors whose writings are synonymous with authoritative outdoor writing. The book contains many charts and tables which enhance the reference value of the volume. Through an unfortunate slip in the proofreading, the U. S. Fish and Wildlife Service tables showing the big-game inventory and the big-game kill appear under the wrong headings. Aside from this, the book is nicely written, well organized, and should make a valuable addition to the sportsman's library.

TRAINING GROUSE AND WOODCOCK DOGS
by Logan J. Bennett

146 xi pages. Illustrated with 14 half-tones of photographs and a line drawing by Ross T. Mitchell. Published by G. P. Putnam's Sons, New York City, New York; 1948. Price $3.00.

Dr. Logan J. Bennett undoubtedly knows more about training grouse and woodcock hunting dogs than any other living individual. The techniques he uses were developed over ten years of continuous study of the Northeast's two prize game birds while leader of the Maine and Pennsylvania Cooperative Wildlife Research Units. The work of censusing nesting woodcock and grouse with dogs is exacting work that requires a degree of perfection which has never been so essential in a bird dog since the days of market shooting. Dr. Bennett, in fact, has developed his training methods to a point where he can produce a working dog which would be the envy of an old-time meat hunter.

This book contains step-by-step instructions on training a grouse and woodcock dog from the selection of the pup from his litter mates through to the final polishing of staunchness on point and steadiness to shot. There are instructions on how to save dogs from hazards of the hunt in the form of porcupines and skunks, and the training and handling of field trial entries is covered fully. The final chapter, perhaps one of the most important, is entitled "Training the Owner."

The reviewer has hunted with the author and has watched the famous Pat, owned by Dr. Bennett and referred to constantly in the book, operate under extremely difficult conditions. He can attest to the soundness of Dr. Bennett's methods and to his superb skill in training dogs.

Farmer-Sportsman Cooperation

By JOHN F. BLAIR

DURING the time that I have worked for the Pennsylvania Game Commission I have read several articles and heard many talks about "farmer-sportsman cooperation." This cooperation is necessary or small game hunting will, for many hunters, eventually cease to exist because there will be no place for them to hunt except on State owned land. Eighty per cent of the small game that is killed in Pennsylvania each year is killed on privately owned land.

Many farmers do not hunt at all. They either do not care for hunting or they are too busy with their fall work to take time off to hunt. Most of them do not care about killing the game on their farm. Many of them would just as soon it wasn't there. However, there it is. It feeds off the crops that the farmer raises and the hunter that offers the farmer a piece of game after a day's hunt on his farm is the rare exception. Many of them don't even thank him.

I have asked many farmers why they post their land and the answers that I receive more than any others are: "By gosh, I want to know who is hunting on my land," or "I have valuable stock on my farm and if it gets shot I want to know who shot it." Many farmers who have posted their land have stated that if a hunter will drive up to the house and park his car and ask permission to hunt he will be given permission unless there are already too many hunters on the land. A farmer is certainly justified in refusing his permission when a whole carload of hunters drive up with a half dozen mongrel dogs and asks to hunt. Would you want a motley crowd like that turned loose in your back yard or garden? The farm is the farmers back yard and the same courtesy should apply.

In checking cars along the road I have often been confronted with the question. "Where can we find a place to hunt in this country." On being asked if they know any farmers around there, the answer is usually no. If asked if they have ever come out during the summer months and tried to get acquainted with the farmer, the answer is, "No, we only get out around here in hunting season and every place is posted." I personally do not have too much sympathy with that kind of a hunter. What has he done to justify himself in asking permission to hunt? The cooperation between the farmer and hunter can not all be expected to come from the farmer's side.

There are many ways that a hunter may make himself a welcome guest on different farms but he must start at it before the hunting season opens. If a man is physically able to hunt, he is also physically able to do something for the farmer that will justify the privilege of hunting. The officers of the Game Commission and interested members of sportsmen's associations spend many hours persuading land owners that posting is not the answer to the depredation problem. I wonder sometimes if we are not making a mistake. I believe it should be up to



the individual hunter to make his peace with the farmer and he can do it very easily.

During the corn planting season many farmers are troubled with crows pulling the corn as it sprouts through the ground. Any of them would welcome a hunter that would kill a few crows and hang them around the corn field. From time to time predatory birds and animals get to taking the farmer's poultry. If a hunter keeps in touch with the farmer from time to time he will find this out and can make himself welcome on the farm by trapping the predator that is doing the damage. When haying time comes there are many times that a farmer would welcome a little help and at corn husking time, too. If the hunter will make an honest effort to get acqainted with the farmer and is willing to put out a little effort to carry up his side of farmer sportsman cooperation he won't need to be driving the road looking for a place to hunt on the first day of hunting season. . . . *The End*

M. D. Hart Passes

The man to whom Virginia owes much of its outstanding progress in the field of wildlife restoration recently died after a brief illness, the Wildlife Management Institute reports. M. D. Hart, executive secretary of the Virginia Game and Inland Fisheries since its inception in 1916 was, in terms of service, the oldest active game official in the United States.

Few men more aptly deserved the title of "father" of an organization than "Mack" Hart. As an officer of the Virginia Division of the League of American Sportsmen, he fought for the formation of a state department of game for 18 years and was appointed secretary of the organization upon its formation. Largely through his foresight, zeal, and militant work, the newly organized department developed a progressive program in which he maintained a strong paternal interest until the end. Although he might have retired many years earlier, he was active in Virginia's conservation program up to the last few days of a long and vigorous life.

Mr. Hart was well into his 80's, and, during his half-century of activity in behalf of improved sportsmanship and wildlife protection, he made a host of friends across the nation. With the Old Dominion, they mourn the passing of one of the grand old men of conservation.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233)

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WILLARD T. JOHNS, JR.

Sworn to and subscribed before me this 26th day of September, 1950.

LUCILLE A. STROUP,
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(My commission expires March 5, 1951).

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Season's
Greetings
Best Wishes for a New Year filled with sport and good Game News.
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THE STORY BEHIND THE COVER

With an Old Year passing into the pages of history, Pennsylvania Game Protectors this month are looking back over the 1950 hunting seasons and looking ahead in preparation for the job of insuring a new wildlife crop for 1951.

For many of these public servants, however, the change in years means full days of duty afield and 1951 is born with the sound of shotguns and the baying of beagles in their ears. Thousands of Keystone State sportsmen end the Old Year and start the New with the sport of hunting the varying hare—"the rabbit that runs on snowshoes."

Hunters like Harold Zilcosky, left, and Lloyd Sallack, right, of Johnsonburg, shown on this month's cover, have discovered that the thrills of the chase are never more exciting than those experienced in the winter woodlands with their beagle, Brownie, on the trail of a "snowshoe." And northern county Game Protectors like Ted Carlson, of Clearfield, shown here examining the hunter's bag of these mysterious animals have also found that the snow land sport offers Pennsylvania sportsmen good, wholesome recreation and the opportunity to meet one of the Commonwealth's most unusual animals.

The snowshoe hare, alias snowshoe rabbit, alias varying hare operates under two disguises—a brown summer coat and a white winter coat. The change, contrary to popular opinion, does not result from a change in the color of the fur, but, rather, from a moult in which the fur is shed completely in spring and fall. The animal's name originates from his very large hind feet with broad palms, widespread toes and thick hair which enable him to scamper freely over the snow.

Although Pennsylvania does not have a large population of these unusual animals, she can be proud of the fact that conditions are favorable for them in her northern counties. The Game Commission, through its field officers like Game Protector Carlson, gives every consideration to the management of this native wildlife species. Food and cover development for the "snowshoe" in the forested regions of the State have been extensive and the many release cuttings around laurel patches and other land management practices have brought the hares back in many sections.

DID YOU KNOW THAT PENNSYLVANIA IS A HOME OF THE VARYING HARE—THE RABBIT THAT RUNS ON SNOWSHOES?

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Mankind's Key to Survival

In this month a New Year will get off to an uneasy start. With history behind us, we look to the future with hope, courage and confidence. Faced by a world in turmoil, by seemingly insurmountable problems of everyday living and by the greatest strains ever placed on the moral fabric of mankind, we pin our faith on the age-old ideal of a "better tomorrow."

Economic, social, political and physical problems have steadily assumed such proportions that a sense of futility tends to dominate our thinking. And an increasing sense of our inability to solve peacefully these problems has been a great challenge in the past year.

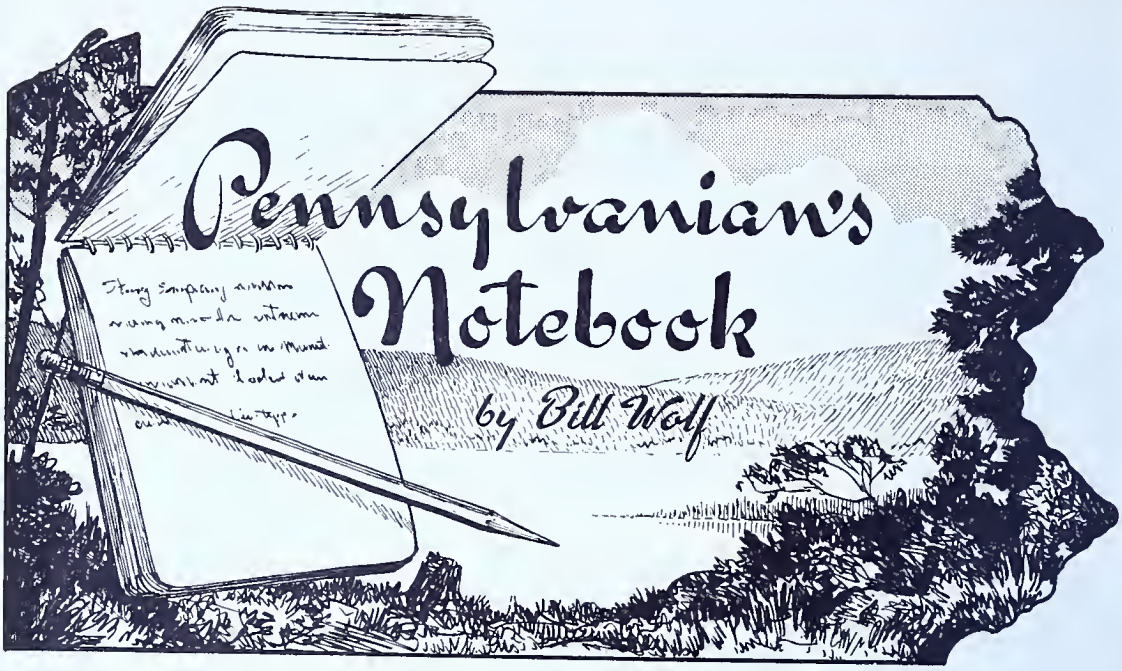
But with all the confusing drift in world affairs, one course of action—conservation—beckons with crystal clearness. It offers great promise of a new and better life and a clear-cut pathway of progress which can change the pages of history.

Conservation is a way of life, a challenge to all of us, a call for progressive action. Its success is dependent on the use each person makes of the material things of life. Conservation of our natural resources is dependent on everyone, not just a few sportsmen, a government agency or a resource-using industry. It demands no sacrifice yet provides a better standard of living.

The key to conservation's success lies in elimination of waste. Blessed as we are in America with a tremendous abundance of natural resources—forests, soils, minerals, water and wildlife—there is enough for all but it must be conserved for tomorrow and generations to come. We must take only what we can use wisely. Conservation in America should counteract hoarding, eliminate waste with its scrap piles, insure prosperity and guarantee freedom from want for all our people for all time.

Conserve Our Natural Resources For A Better Tomorrow





BETWEEN the Mexican border and the Arctic Circle there is considerable land; but circumstances led me to cover most of it in the past year. As a Pennsylvanian, I could not help but consider the hunting, fishing and wildlife matters encountered from a Pennsylvanian's viewpoint, and some comparisons inevitably were made. Comparisons are said to be odious, but I found little odiousness and much cause for local pride.

For instance, the more I travel, the more I wonder whether Pennsylvanians really appreciate the deer population and deer hunting they have? I'm quite convinced they don't, because it is almost necessary to get out of Pennsylvania's borders and look back upon it as a non-resident might to get the right perspective.

For years I have listened to many complaints about the management of the Keystone State deer herd, arguments for and against antlerless seasons, disputes over artificial feeding in wintertime, over controlled cutting and burning to furnish browse and graze—but they have all been voiced by Pennsylvanians. Non-Pennsylvanians think things are run incredibly well in Pennsylvania, and look with absolute amazement upon our deer hunting. A deer program, like a prophet, apparently is without honor in its own country.

From September, 1949, to September, 1950, I was in such assorted deer hunting places as far northern Saskatchewan, Wisconsin, Michigan, New York State, most of the south clear down to the bottom of Texas, several districts in Ontario, Minnesota, and others.

I was surprised by the few deer actually encountered in other regions, or even evidence of the presence of deer. I know that a short walk anywhere in Penn's deer woods will produce the actual sight of some deer, droppings everywhere, beds and evidence of grazing and browsing.

The same thing doesn't hold true elsewhere. In northern Saskatchewan, which now has what it considers a large whitetailed deer population, I *heard* one deer whistle as it fled before me in the woods, I saw none, saw few droppings. In some of Wisconsin's better deer country I came across only a few. I saw one in Ontario, few signs.

Ed Smith, who runs the Northland Lodge for fishing and hunting parties on Big Vermilion lake near Hudson, Ont., said he believed American hunters came up there deer gunning only because of the adventure of the trip and because there are fewer hunters. He spoke enviously of the number of deer we have in Pennsylvania. However, there, as in many other places, the individual hunter is more certain of getting a deer than the Pennsylvanian is. We have more deer, but also more hunters and some are bound to be disappointed in this State.

At his place, deer hunting is remarkably easy for the hunters, though. The deer often summer on the many small islands in the 14-mile long lake, and a hunting party working an island is bound to get shooting.

One Shot Hunting

The King Ranch in Texas provides the single exception to the general picture. I never saw so many deer in my life at one time as I did there, but the herd cannot be compared with Pennsylvania's because conditions are entirely unlike those in this State.

The ranch has complete control over everything but the weather and poachers. Hunting on this vast ranch of nearly one million acres is by permit only, and is limited to about 1200 persons annually, not all of whom hunt deer. Many hunt quail and wild turkeys only.

All predators are rigidly controlled, food and cover crops are planted, and artificial shelters are even constructed for quail. The results are amazing. Deer (the same whitetail as ours, although smaller) dot the prairie landscape like cattle. Quail are incredibly numerous. And I have counted as many as 50 wild turkeys at one time from where we stopped our car! We even had to shoo wild turkeys out of the road when driving.

The Kleberg family imposes strict rules on all who gun on their fabulous King Ranch. How would you like hunting under such rules as these?—One deer per person, which must be killed with a head or neck shot, wounding a deer in the body meaning the end of deer hunting for the unfortunate gunner. Wild turkeys are hunted with rifles only, and must be killed with a head or neck shot. Quail may be hunted only with 20-guage or lighter shotguns.

Elk Haven

Given the right sort of terrain, and left unmolested for a time, elk apparently will come back readily. A small herd of 26 were released a score of years ago at Mile 60 north of Sault Ste. Marie, Ont., on the Algoma Central and Hudson Bay Railroad. They increased so well that a limited season was declared in 1950.

This is wild country, though, some of the wildest I have seen in eastern Canada. It is reached only by the railroad, no roads being available although it is relatively near the mining section on Lake Superior. I



Bill Wolf, nationally known outdoor writer, has long been a frequent contributor of articles for GAME NEWS. *His skill in presenting the great story of the outdoors and conservation has gained national recognition. Now,* GAME NEWS *presents with pride a new series of informal sketches of Mr. Wolf's keen observations. In this first chapter the author takes us all the way from the Arctic Circle to the King Ranch in Texas and finds out for us that Pennsylvania's wildlife program, like a prophet, is apparently without honor in its own country.*



"I'd live better than the Indian, although I make no pretense of being an expert hunter."

camped for a week in Agawa Canyon at Mile 114 on the railroad. The spot is only 114 miles north of industrial Sault Ste. Marie, but it might have been a million miles from civilization except for the occasional train. Moose, deer and elk abound, plus eastern brook trout in the river and in the lakes that dot the more level land above the canyon's walls.

Since most of the lakes are too small for airplanes, many of them are unseen by human beings for years at a time. Trout fishermen visit a few of them, trappers occasionally work the more remote ones. Such isolated country is ideal for elk and they have increased. We have little similar land in Pennsylvania, and our small elk herd probably will survive as a novelty only.

Duck's Delight

It is difficult to envision Pennsylvania as ever again being a major duck producing State; but some time spent on the duck marshes at Delta Waterfowl Research Station near Delta, Manitoba, has convinced me that such a development is not beyond possibility.

Although the Delta Research Station is located on the vast marshes around Lake Manitoba, its staff is convinced that small farm ponds and potholes are every bit as important (or perhaps more so) as big marshes and lakes in the production of wild ducks.

They maintain, convincingly, that wild ducks will live and breed in close proximity to man (our own native mallards and black ducks are proof of this), and that they will return year after year to the same breeding ground if they survive the flight south and come back. They are like salmon and other fish that return to the rivers where they were born to spawn.

However, if all the ducks from one specific pond are killed off before they even start south, none will return to that pond to breed. That's why, they say, the duck breeding grounds are moving north more and more. Actually, the grounds are not moving north, but the southern ponds and waters no longer have breeding populations that return to them. They believe this is due to too early seasons on the breeding grounds (wherever they are) which can eliminate the entire population of a pond right on the spot. If Pond X loses all its breeding ducks, Pond X will never produce again except by accident, or by outright design.

Hope for the future, even in Pennsylvania, lies in outright design. According to Delta Station research, *if* young duckling were planted in a Pennsylvania pond, *if* they grew to maturity there, and *if* they were allowed to start the annual flight south without being killed off on the pond itself, some would survive to return and breed again. Thus, each small body of water would contribute to the total duck population.

The use of small ponds and potholes as duck breeding grounds is in opposition to the viewpoint of Ducks Unlimited, which feels that huge lakes and marshes in the north are the answer to more ducks—but anyone who has ever seen the thriving broods on small ponds in North Dakota and Manitoba will admit that the Delta research has considerable merit.

Fish and Meat Alone

How well can a human being survive on a diet of fish or meat alone? The Cree and Chipewyan Indians I encountered in far northern Saskatchewan on the edge of the Arctic Circle this past summer get along fairly well on such a menu, but there is no evidence that they are especially happy about it.

In summer, they eat fish, principally lake trout. In winter, they live on caribou meat, and what fish they can catch, or have previously smoked or frozen. That's all they eat, for breakfast, lunch and dinner, if they dignify their meals with such names.

A few berries in summertime, an occasional bird or other form of animal life, are the only variations. No bread, no vegetables, no sweets, no nothing. They say that a person doesn't get tired of caribou meat, but that's impossible to believe.

The Indians are not overly fond of salt, and don't like pepper. They do take to one of the white man's luxuries, however, and carry it with them wherever they go. That's tea. At Wollaston Lake I saw an Indian trapper's entire supplies for the winter. It consisted of one large carton entirely filled with small half-pound cartons of tea, and a bit of salt. That's all he was taking with him in the food line for the long, dreary months of snow and ice ahead of him. He would kill caribou for himself and his dogs, or eat an occasional other animal.



This reminds me of an experiment I have always wanted to try to prove a point. We hear much nowadays about the good hunting and fishing of the past, when a man could take a rifle, some salt pork or bacon, a bit of salt and some flour, and live off the land.

Well, I believe that it would be possible to do that today, and to live better than the pioneer did. I believe there is more wildlife in Pennsylvania now than in the Indians' time, and that there is a greater diversity of game and fish.

I'd like to get permission to take game or fish for my own consumption by any method I wished and at any time of the year, and go into the woods armed with a gun, carrying bacon, salt and flour, for a week or more.

I'd live better than the Indians in Saskatchewan, although I make no pretense of being an expert hunter or angler.

There would be a few things missing from the days when the Indians "lived off the land" in what is now Pennsylvania. Gone are the buffaloes of the western end of the State and the more numerous waterfowl of the past. But, in turn, I would find more deer than the Indian ever dreamed could exist. I would find more raccoons, opossums, skunks, crows and foxes than the Indian ever knew, plus pheasants which he never saw. I would find as many native brook trout in the small mountain streams as he ever did, and the larger waters would hold black bass which were not here when the Indian occupied the land.

It's difficult for the hunter to believe, but many kinds of game are more abundant now then in the pioneering past for the simple reason that they thrive best next door to

man. Contrary to story book belief, deer are not abundant in the deep and primeval woods. Take a look at the forest primeval—the big trees reach away up for sunshine and there are no branches near the ground, the forest floor is shaded and nothing much grows there except moss and a few ferns. There's nothing for the deer to feed on in the "forest primeval," but food is everywhere abundant where man has cut down the trees and cleared the ground. Browse and graze both became plentiful only after the white man moved in with axe and fire.

The raccoons, crows, foxes and similar wildlife multiplied as farms increased in Pennsylvania, and they had a ready and abundant food supply. Civilization did harm the streams, and there are fewer fish now than then, but still enough are left to help keep alive a man on his own in the woods.

Naturally, he couldn't observe today's hunting and fishing regulations, which are designed to further sportsmanship and to spread the wildlife harvest among many persons. He would be hunting and fishing strictly for meat, and he would obtain food in any practical, easy way. He would take a buck, doe or fawn, whichever came his way first. He would shoot birds on the ground and rabbits that weren't running. He would set snares for small game, and put out a setline each night if he had a bit of line and some hooks with him.

The methods by which game can be obtained for food are many, and are unimportant here. The main point is that we, today, apparently have far more game than the Indians did, and a modern pioneer could keep himself alive without trouble. I have been in wild country recently that is as untouched as Pennsylvania was before the year 1700, and I saw less game there than in our heavily-settled and hunted State.

Pennsylvania the Beautiful

There is one thing that should be mentioned, but I do it hesitantly because reluctant to appear biased and prejudiced in favor of my own State—but few places on this continent have more beauty or natural attractions than Pennsylvania.

I like the mountains of Vermont, the Adirondacks in New York State, the Great Smokies to the south, the wooded slopes of Oregon, and I have found passing pleasure in looking upon the Everglades by day and night, the bayous of the Mississippi delta country, the deserts of the southwest and the ruggedness of the Rockies, and the woods and waters of Canada. However, each of these places seems to possess only a single distinctive feature.

Pennsylvania, on the other hand, has a variety of outstanding characteristics that set it apart from almost any other region. The hunter can gun in the southeast on land that has been cared for over centuries, and shows it in every neat field, trim fence row, park-like groves of trees and substantial buildings. Or he can go into the mountains and find terrain rugged enough to suit anyone but a mountain climber. He can walk beside quiet streams as lovely as those in an English countryside, or he can find roaring mountain torrents.

In September I returned from a long trip during which I camped out in the Canadian wilds at various places, living in a tent in a deep canyon in Ontario, camping beside a falls on Lac La Ronge in Saskachewan, and then in the far north. That was in the line of work. As soon as I got back, I got equipment together and went off on a brief holiday—camping along one of the prettiest stretches of the Lehigh River some miles below Stoddartsville.

. . . *To Be Continued*

What is Wrong with Wildlife Administration?

By Ira N. Gabrielson

President, Wildlife Management Institute, Washington, D. C.

THE query, "What is wrong with wildlife administration?" is usually aimed at State wildlife departments since, with the exception of migratory birds and a few special areas such as national parks, the states have the responsibility for the most important wildlife resources.

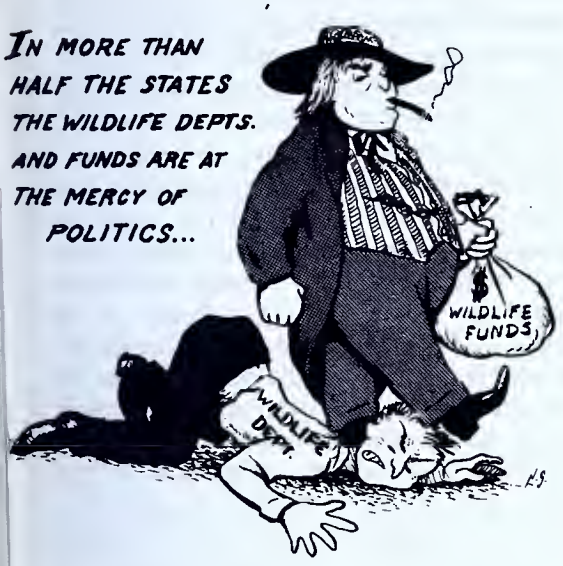
If State administration is examined in the light of the ideal activities needed to do an adequate job of protecting this resource, it must be admitted that the picture is not good. If it is examined in retrospect against the conditions that prevailed 20 or 30 years ago, it is obvious that definite progress has been made in many states and that administration generally will average considerably better than it did in those conservation dark ages.

Whether it is improving fast enough to keep pace with the increasing complexities of preserving wildlife in the face of a growing human population and a consequent increasing intensity of land use and a growing army of hunters and fishermen who desire, usually vociferously, to utilize the wildlife resources, is a moot question. If the standards of all State administrations could be raised to equal those of the half dozen states doing the best job, we would indeed have a potent force for improving the chances of maintaining wildlife populations. Those states with the poorest departments lack almost every needed authority, as well as adequate policies, information and programs. Some of the better ones lack few of the basic attributes but do lack adequate resources to do the major job in the face of increasing human pressure on wildlife.

What are the chief defects in current State game administrations? Politics would unquestionably head the list. While there has been some improvement, it is still regrettably true that in more than half the states the wildlife departments and funds are at the mercy of partisan and personal politics. In relatively few states is adequate protection provided for either the personnel or funds. A clear distinction should be made between the use of conservation funds and positions to pay personal political debts or to give partisan rewards to political workers, and the politics and controversies that may arise over conservation policies and programs themselves. As long as America has a democratic form of government, differences over the relative value of programs and ideas are bound to occur. There is, however, no excuse whatever to use conservation funds and departments for personal and partisan politics. That the people can defeat this use of conservation programs has been demonstrated in enough states to prove the case. Whenever the sportsmen and conservationists of any state get sufficiently aroused, conservation agencies can be placed above such use and kept there so long as public opinion demands it.

The wrong kind of politics has unquestionably been the cause of more

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waste of both funds and effort in conservation than any other single factor. It causes waste even when there is a desire not to waste by a constant shifting of programs and personnel before any effort that can affect living things can become really effective. Whenever a conservation department suddenly and without adequate reason changes direction or personnel or both, much of the previous effort has been lost. Regardless of the merit and character of the new men, each has to learn the job over and become acquainted with the problems before efficient conduct of a statewide program can be effected. A good wildlife program requires continuity of effort and personnel to have a chance to succeed. It is not likely to have either under the kind of political administration that still prevails in more than half of the states.

One of the further bad results of such a political system is that a comparatively small number of states and a few national conservation organizations have a tendency to corral the best men. The most successful states have a tendency to secure the best-trained and most experienced men and to keep them long enough to get new values from their services as their knowledge of local problems grows. It is true that there are good men in other states, but an examination will too often disclose that most of them fall into one of two categories. Either such employees have personal reasons or personal obligations, which usually are not connected with their jobs, that constrain them to remain, or they have not as yet attracted sufficient attention to be offered more attractive employment. As fast as good men develop, they are snapped up by agencies able to offer more attractive employment conditions and greater opportunities to do a real job.

Sportsmen's pressure is almost surely the second most potent factor in poor game administration. Intelligent sportsmen have been responsible for most of the good administration there is today—and too often for much of the bad. Sportsmen's groups are too often ignorant, even if they are enthusiastic. They are frequently led by silver-tongued but leather-headed leaders who know little more of the needs of wildlife species than what may be learned from looking down a gun barrel or handling a fishing rod. Sportsmen's groups, by organizing pressure to secure unwise privileges and to cause the adoption of unsound programs, have been responsible for an appalling waste of conservation funds and effort.

The most common form of this waste is sportsmen's pressure for greater and more liberal harvesting privileges than the condition of the stocks will allow. This frequently results in a relatively gameless or fishless territory for some years. On the other hand, sportsmen's prejudices against harvesting doe deer, for example, have been responsible for major catastrophies to deer herds; and their resistance to adequate kill

of excessive pheasant populations has caused considerable tension between farmers and sportsmen. Too few sportsmen realize that it is good management to preserve all female stocks when it is necessary to build a game population but foolish to continue the practice when the stocks have reached the maximum carrying capacity of their ranges or when the stocks are so great that they arouse prejudice among agricultural groups. The latter situation certainly existed in South Dakota during the height of the pheasant population in that state and was responsible for many prejudices against pheasants and for many actions on the part of landowners inimical to pheasants—and hunters—which are all too apt to continue for years.

Too much game in an agricultural country can be as troublesome to the sportsman's permanent interest as too little game. Too many grazing-browsing game animals, such as deer or elk, cannot only cause conflict with other interests but destroy their own food plants and make it impossible to rebuild the herds for years following an eat-out and a starvation reduction of the herd.

Another great waste has come from sportsmen's pressure for artificial propagation and restocking program. Most checks made on the results of stocking efforts indicate such a low percentage of survival and such a low percentage of this game turning up in sportsmen's bags as to render the cost prohibitive. Even if a game bird stocking program were, for instance, almost 100 percent successful, the cost of stocking would be still so great in view of present license fees that it is an entirely uneconomic program and one that if carried to its logical extreme can only bankrupt conservation departments. There is a place for stocking programs, but propagated stocks should usually be released only to restock territory that has good range suitable for that species and which has no existing populations.

Predator control is another favorite phobia of sportsmen. Predator control is often necessary and desirable, but too many sportsmen's clubs react to all decreases in game populations by demanding state-wide bounties on predators, to be paid from conservation funds. Such an outlay *always* results in waste. It pays for the killing of animals that would be killed anyway, either for fur or about farms, and, perhaps more important, it does not center the control expenditures and efforts at the point where predators are a real factor in holding down the populations of more desirable species. These examples and



similar ill-advised demands upon conservation funds have resulted in more waste of funds and effort, probably, than any other single factor except the political one previously mentioned.

Lack of adequate authority to manage the wildlife harvest is another and perhaps the third most important factor in producing poor game administration. One by one, State legislatures have been convinced of the impossibility of managing the wildlife harvest by a lawmaking body which meets only every two years, and furthermore has a multitude of varied problems, most of which are considered much more pressing, before it. No legislature is able to give any real consideration to more than the broad outline of a wildlife management program. Every state game department needs the authority to open and close seasons, to control bag limits, and to make such other regulations as are necessary to limit the harvest taken each year. The allowable safe harvest is bound to vary as a result of many factors and no rigid legislation can possibly meet the problems that come each season. Either the harvest will be too great, which will mean a poor crop for one or more succeeding years, or it will be less than might have been possible under flexible regulations. About half the state game departments still need some part of this adequate authority. A few have complete authority to make such regulations. There are others that do have adequate authority to do a reasonable job of harvesting their game crops but many of them are still hampered by local and often conflicting laws that make a good job impossible, no matter how competent the staff.

There are many other factors that contribute to poor wildlife administration. Inadequate knowledge of game conditions is still one of the most common ones. There are still few states that have enough trained men on their staffs to gather the necessary information promptly, and promptness and accuracy of information are more necessary than ever before because of increasing hunting and fishing demand that comes from a constantly growing army of license buyers. Trained men are needed to determine the size of the wildlife crop each year, how much breeding stock is necessary to carry over in order to insure an adequate supply next year, and where and when the harvest can safely be made. There are few states that have completely adequate information on these factors and too many that still make regulations largely on the basis of political log-rolling in legislatures or because of sportsmen's pressure on the administrators, who may have authority but no sound knowledge on which to base and defend their decisions. When the facts are available from which sound regulations can be made, it is necessary to have an adequate staff to enforce the regulations. Without enforcement, the best information and regulations are useless as a method of maintaining wildlife populations.

Another potent factor in poor wildlife administration is lack of attention to essentials. For example, many state departments pay little attention to pollution of their waters. Some have no authority to force pollution abatement. As a result, too much time and effort—not to mention money—are spent in raising fish to dump into waters where they cannot survive, and in arguing with sportsmen's groups over the size limits and bag limits, and too little in providing water in which fish can live and grow. The same is true of many game problems. Too few states are engaged in large-scale habitat protection and restoration programs. It is increasingly common knowledge that habitat improvement and habitat protection are in the long run the best possible means yet discovered to produce game

year after year. Too many states are like small boys going swimming for the first time, dabbling their toes in the water rather than really getting into the job.

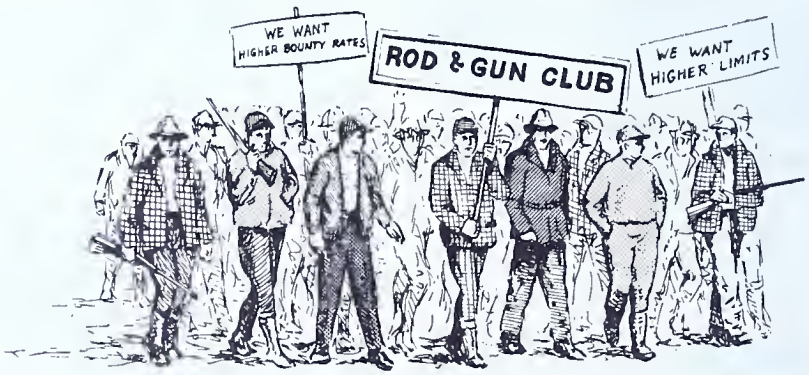
The majority of the states have paid too little attention to education of the public. While the administrators may know their basic problems, few of them have adequate information staffs or adequate ways of placing wildlife information before the public. Too much of the over-all educational effort is devoted to those who are already informed and too little in getting information to those who need to be informed. This criticism is more or less true of practically every conservation organization. Many departments are developing increasingly good information programs for sportsmen's groups, but few have made any sustained effort to get their problems before the much greater number of nonlicense buyers. Few are making specific efforts to reach the people on the land, or the children in the schools, although both groups are vitally important in any sane program of maintaining the wildlife resource.

When the basic factors that govern the production of wildlife in this country are considered, there is not too much cause for optimism. There is a constantly growing population on this continent. This is not true in all communities since there are areas where human population is receding, but for the continent as a whole, more and more people will inevitably require more intensive use of land for human activities. This means a constantly decreasing habitat capable of producing wildlife. There is also a constantly increasing number of people who want to participate in the wildlife-resource harvest. So the problem becomes constantly more acute. A wildlife administrator does not have a happy lot. Even though he doubles the production of game in a given area, it avails little if the number of hunters doubles at the same time. There are no more pieces of game per individual than before and, consequently, there is no visible evidence of results of his work.

When an outstanding game job cannot increase the visible game, and goes without appreciation from the hunters, what chance has an understaffed department with inadequate authority? Wildlife loses ground in spite of everything it can do, and it is held responsible for the apparent decline.

These various failures in wildlife administration are serious. As the hunting and fishing populations grow, inadequate controls of harvests, inadequately enforced, will bring increasingly serious effects.

There is only one present answer to this problem and that is for interested sportsmen to become so thoroughly organized that they can force



Misguided sportsmen's groups often cause the adoption of unwise management practices...

the removal of these handicaps to the best possible utilization of our wildlife resources. It has been demonstrated over and over again that conservation forces, when aroused, can take personal and partisan politics out of conservation organization. Politics can be kept out so long as a vigilant public opinion is present. But one thing is certain. Those politicians who like to pay their political debts with someone else's money are at it 24 hours a day. They will be chiseling in again as soon as vigilance is relaxed, no matter how perfect the legal setup may be.

There have been many instances where well-staffed and adequately informed conservation departments have rallied sufficient sportsman and conservation support to resist the pressures for unsound measures brought by less informed hunting and fishing groups. This is a function that only intelligent sportsmen's organizations can perform, but one that is vitally necessary if public hunting and fishing is to continue. Sportsmen's groups, sufficiently aroused, have demonstrated many times that they can secure sound legislation on which a good program can be built. If, as sometimes happens, the politicians are able to block them for a time, there are ways to beat them. Missouri demonstrated one of those ways. Here, a popular sportsmen's uprising, led by farsighted sportsmen, used the initative to put into the constitution the present legal basis for the state conservation department. This is basically the best of any state setup and was made possible only by the fact that the legislature year after year stupidly refused to grant even moderate reforms in one of the worst conservation administration systems that existed at the time. When the pressure built up high enough, it was possible to set up a new conservation program in such a way that the legislature cannot now interfere. Only by a vote of the people can this law be repealed.

Sportsmen's groups can do the greatest service to their own interests and to the interests of America by insisting that their state conservation department be free from partisan and personal political interference, that it have adequate authority, that it resist ignorant pressures from hunting and fishing groups, that it have an adequate law enforcement staff, adequate personnel to make accurate inventory of game stocks each season and trained research men to work on its problems, that it have a sound educational program, and that it devote its funds to sound basic work to produce more fish and wildlife.

Sportsmen have every right to demand this kind of a program. Once they get it, they should fight to see that personalities, selfishness, and greed do not interfere with that program. In other words, a conservation department that is doing a good job should be backed even if sportsmen do not like the way the commissioners wear their hair or the way the wardens drive their cars.

Too much personal prejudice has entered into the conservation picture in the past. The things that are needed in the state departments are a sound program, good personnel and solid public support. If it were possible to have an organization with these qualities in each of the 48 states, we would have a greater impetus for better hunting and fishing and greater insurance for the future of wildlife than any conservation step ever taken.

. . . *The End*

Outdoor Reveries



The Turning Year

By John H. Day

ANOTHER year, newly minted and full of promise, comes rolling down the calendar for its rendezvous with destiny. Sleek and shiny, the 1951 model comes on-stage to stir the age-old instincts which plague every man who loves the lure of wayside trails. He can't wait to trade in the faithful old model for the gleaming newcomer, anticipating great adventures afield before the twelve-cylindered novice will have run its course.

The countryman sits at his writing desk and looks back over the broad vista of better than thirty years of weekend rambling across the friendly hills. Red letter days pop up in his mind's eye—days of new discoveries or of such rare charm as to have etched themselves permanently in memory. And now—again—here comes another year, offering endless fascination and countless new exploratory paths.

Once January has made the fatal step and plunged a tentative foot into the surging tide, the countryman starts pulling and hauling for all he's worth, eager to roll back the cold months of waiting and get on to the joys of the returning Springtide. He hopes for all who are stirred by such simple things as "the rift of dawn, the reddening of the rose" good hiking in the new months that lie ahead.

The cost of wandering the devious wayside trails is trivial. Old clothes, comfortable shoes and above all a good stout walking stick; these are the prime requisites. The walking stick should preferably be one cut by the hiker himself. It should be light and strong, and about heart-high for greatest comfort in use. The welcome mat is always out in the thickets, and few indeed are the signs reading "For Members Only."

The confirmed hiker is beyond rescue, sunk in a poppied drench of simple outdoor pleasures which he would not exchange for a king's ransom. He has schooled himself in the art of seeing things, and every trip afield reveals some new fine print he missed when he passed that way before. In the book of the outdoors the best pages are always as yet

uncut. The countryman reads on and on, following the fascinating narrative through swamp and bottomland, across the hills and onto the ridges, happily aware that he cannot bankrupt his opportunities nor knowledge nor joy.

There is a wealth of simple beauty around every bend in the countryside. It blooms in field corners, in corn rows, even on garbage heaps and on barbed wires against the snow. The countryman winds up a hectic week tensed and grumpily irritated by the mad, merciless whirl of business. He heads for the timberlands posthaste and soon walks relaxed through an enchanted world of haunting distances and enthralling solitude. This is his seventh inning stretch—a change of pace with tremendous lift to body and soul.

One of the prerogatives of the countryman who rambles often through the same bailiwick is the engineering of his own footpaths. A footpath is of slow growth. It is a wild, shy thing that is easily scared away. It steers with uncanny instinct for the gaps and low places in the fences and wears the roots of the trees at favored corners in the woodlands. But it can become the highroad to happiness for the jaded townsman who returns, like Antaeus, for strength and courage to repeated contacts with Mother Earth and her folk.

The turning year marks not only the entrance of another annual cycle but footnotes the halfway point in perhaps the most anxious century the world will know. The countryman invites all men in posts of high decision to walk together through the neighboring countryside while resolving global differences. Walking brings out true character. As the pores open, all disguises fall away and real convictions are laid bare.

To all who would learn to know the simple joys of the wayside trails the countryman extends invitation to come along in weekend rambling. All outdoorsmen share alike a tremendous legacy of happy memories and high hopes. As Thoreau had it, "there is more day to dawn." Tomorrow and tomorrow and tomorrow the open road will stretch in shimmering beauty across the neighboring hills. That way lies shangri-la, a delightful and happy new year.

The morning sun burned off the last wisps of frosty haze and bathed the countryside in pale effulgence. Driving snow squalls, which had halted during the night, had laid an eight-inch blanket of powdery whiteness across the hills. Countless crystals smouldered in glowing brilliance as they reflected the glory of the mounting sun.

Against the far hill the grape tangles and the jutting rock ledges stood out in bold relief. Tremendous icicles curtained the overhanging outcrops, creating frigid caves which will hold intact until the next good thaw. Even though the mercury stood near the zero mark, the sun's angle of approach was a dead giveaway that the first month of Winter is over. The cold gray days of January will soon succumb to the siren song of February, while the groundhog stirs sleepily in his snug den.

Faced with the task of clearing walks and driveways, the countryman dons knee boots and jacket and bends his back to an hour of honest toil. As he stops for an occasional "breather" he hears the uncomplimentary remarks of the starlings from the neighboring barnyard. These feathered hoodlums seek safe perch in the tops of the tall poplars by the roadside. Here they sit and comment caustically while the snow shoveller labors down below.

As the shovel eats its way through the white coverlet the countryman ponders the advancing season, which has already sent the sun veering north from Capricorn. Another week or two and there will be no denying

the insistent call of the warming rays. Broken maple twigs on the hillsides will soon bleed sugar water from the breaks during quiet sunny afternoons. The mourning cloak butterfly will take advantage of the same bright days to limber up its frost-stiffened wings, and float gracefully above the melting snow in the sunlit glades.

Even now the lord high executioner of the timberlands, the great horned owl, has felt the impelling urge of the rolling year. In another week or two he and his fearsome mate, won after a most undignified protestation of his affection, will be house-hunting through the cold February trees. If they can't find a hollow big enough, they will move into an old hawk's nest. Here these "early birds" will brood their clutch of round white eggs, often while the back of the sitting bird is covered with snow.

Of all the magnificent trees which grace our Winter countryside I think the sycamore is perhaps the most beautiful. It is certainly the most picturesque, often leaning out, like Narcissus, to admire its own beauty in the quiet pools it loves. As a rule the sycamore only grows where water stays. Where the ravine goes dry in Summer, there you will not find "the pillard dusk of sounding sycamores."

The buttonwood is surely an individualist. Most orthodox trees show next year's bud as early as May. Not so the sycamore. Hidden away in a swollen "cup" at the base of the leaf stem is the bud of this big fellow; protected during the warm months and abandoned to the elements when the need for protection is greatest.

Once its acquaintance is made, the sycamore can never be forgotten. There is only this one native tree with much strange, crazy patchwork on its branches. The massive giants look from a distance as if splotched with whitewash to the farthest twigs. This speckled appearance is due to the plane tree's continual moulting. Even in Winter flakes of the outer bark can be picked up from the snow beneath the trees.

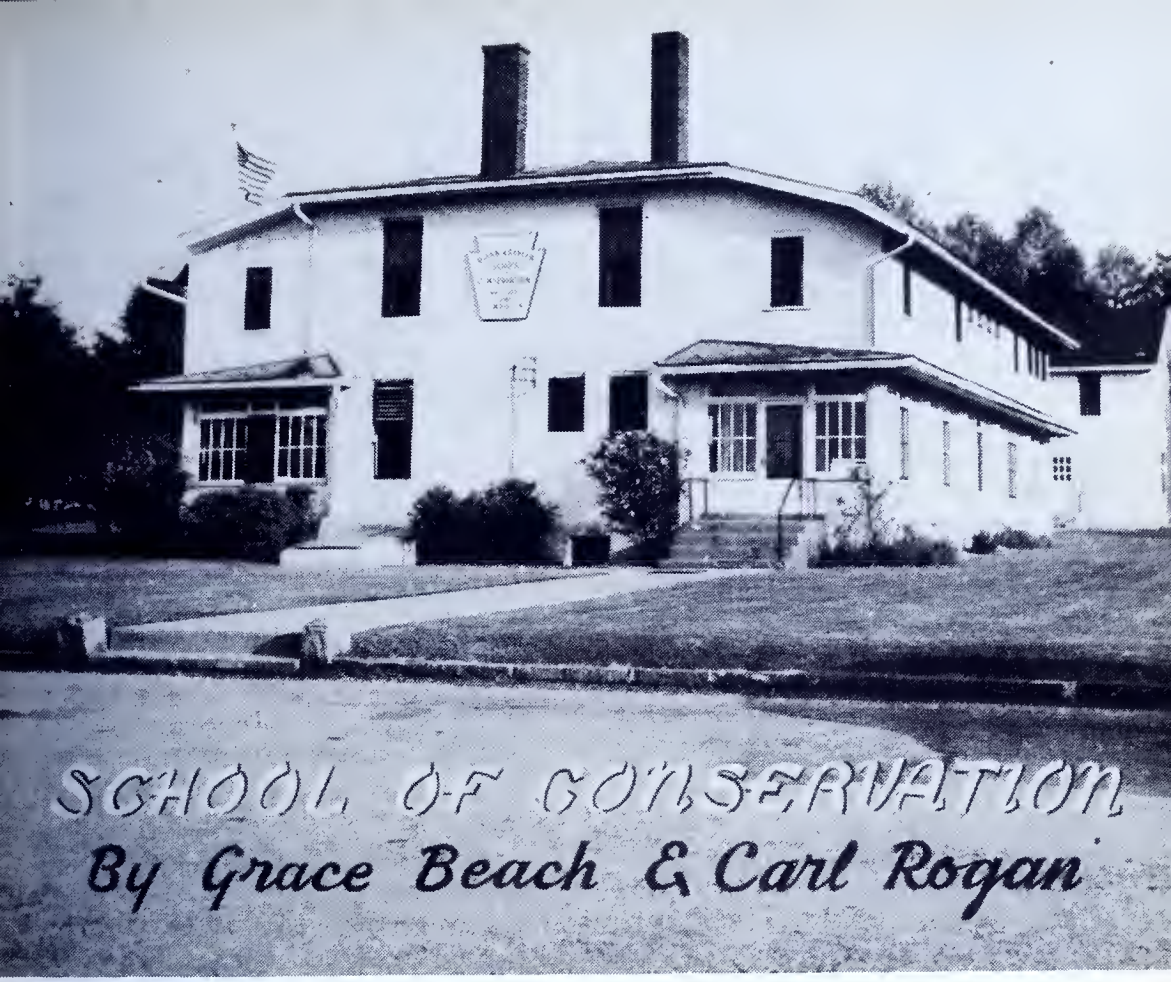
One thing bothers the countryman as he girds for another year of week-ends along the wayside trails. This single disturbing factor is the downright selfishness of many of his fellow men, who seem bound and determined that as little as possible of the simple beauty of the outdoors be left for the pleasure and enjoyment of coming generations.

He walks the countryside and notes the utter devastation of the strip mine operations. He sees the once-limpid streams reeking with foulest pollution. Here the farmer's fence wire has been ruthlessly cut to allow passage for a so-called sportsman and his dogs. There the gate bars are carelessly thrown down. Saw mill men comb the countryside for the pitifully few acres of good timber still undemolished.

For all who love the wayside trails the countryman wishes good hiking in 1951. He hopes fervently that all men who can strike a blow in the cause of sensible conservation will strike that blow this year.

. . . *The End*





SCHOOL OF CONSERVATION

By Grace Beach & Carl Rogan

NOTE: This is the second and last of two articles on the Ross Leffler School of Conservation near Brockway, Pa., in Northwestern Pennsylvania. The first article published last month dealt with the requirements for entrance into this unique school where this year twenty-five men have started their year-long training for Game Protectors and Game Propagators. This article describes the school's facilities, teaching methods and other pertinent observations exactly as the writers viewed them on a recent visit. The authors are indebted to William C. Shaffer, Chief of Training and his Assistant Robert Lichtenberger, and to George Norris, Supervisor of the Southwestern Division, who accompanied us. We express our appreciation and thanks for the courtesy and hospitality which made our visit so pleasant.

OUR drive to the school had been most pleasant and informative for we were accompanied by George Norris, genial Supervisor of the ten Southwestern Counties of Pennsylvania, a remarkable and interesting person.

A few miles outside the Brockway location George explained briefly the general wildlife management program carried on at the school.

It was learned that the work in this area was done by the student officers, along with some additional hired help, as part of the training program. The land is worked intelligently and the natural beauty preserved so that even visitors unmindful of such things are awed by the scenery. For approximately two miles we drove through what might be referred to as a long narrow corridor lined with high trees that were beginning to show the luster and color of advancing spring.

We had completely forgotten the uneven road made rough by winter and early spring rains in our evaluation of the surrounding beauty and agreed that there could not possibly be a more suitable location for the school anywhere in the state.

Its main entrance resembles a miniature park. Looking into the grounds several hundred yards ahead we saw three structures: the main building which would never take a prize for architectural beauty, but we later learned was built like the rock of Gibraltar; the garage; and the barn.

At this point we would like to state that the following remarks are not meant to be offensive in any manner, but are the facts as we saw them. They are set down here as information to the sportsmen and GAME NEWS readers in whose interest we made the trip.

The main building utilized for school purposes was built in 1915 and was originally designed for use as a hunting camp to comfortably accommodate about 12 persons. It was built to withstand the ages but certainly little thought was given to beauty of structure.

When the school was started in 1932, these facilities, limited as they were, met the Game Commission's temporary needs. They were not such as would meet the requirements of personal comfort of men who would train there for a year in future days; and, it is extremely doubtful if much thought was given to this fact at the time it was opened. However, from time to time additions and alterations have been made in an attempt to meet the rapid expansions in the training program.

In 1941, the Commission, aware of the congested conditions, erected a combination classroom, laboratory, and dormitory adjacent to the school, which to some degree has relieved the crowded conditions.

In spite of these additions, the Ross Leffler School of Conservation today is found with badly congested accommodations and sadly lacking facilities to do a good job in the field of training men for game protectors and game propagators. Nor do the accommodations provide too much comfort for the men stationed at the school.

In both buildings men are quartered in double-deck steel bunks which are not built in a manner designed to cradle a tired body nor lull one to restful sleep after a hard day.

In the new building, however, Mr. Shaffer excuses in part these lacking comforts by calling it "fortunate in having a little more space with cross ventilation available," and added:

"We actually are more fortunate since in the main building we lack cross ventilation in most of our sleeping quarters." This was literally true as we later learned, for the main building has very small sleeping rooms with no cross ventilation, which doubtless contributes little to the comfort of the occupants during the hot summer nights.

The lobby in the main school building which is used chiefly for recreation, reading and relaxation is also an interior room and quite dark and dingy in appearance because it too lacks window space and cross ventilation.

The halls in the main school building are narrow and without any ventilation at all.

Maybe this seems incidental, but think of the discomfort you would undergo if it became necessary to spend one year in such a place.

Typing is taught as a related subject in the school work and this class is hampered by lack of space. The typing room is so congested that the Commission is forced to divide the



"Typing is taught as a related subject in the school work and this class is hampered by lack of space."

student body into several groups. The "desks," so-called for lack of another name, consists of a wide board reaching from one end of the hallway-like room to the other.

They are rather shaky and there apparently is considerable vibration when the students begin pounding on the row of typewriters atop this contraption.

In both buildings the storage space for school supplies and students equipment is totally inadequate. Steel lockers—sardine can size—are provided for the students because the lack of space does not permit the use of lockers large enough to allow them to store a wide variety of clothing and equipment necessary to carry on the training work. Consequently, the men are obligated to keep a portion of their clothing and equipment in their personal automobiles or are asked to bring personal articles on their visits home.

Also space is at a premium for storing the office supplies and necessary equipment needed at the school. Every inch is crammed to the last fraction of available space.

The basement of the main building is not excluded. It is used as storage place for the canned foods. It has a low ceiling, no cross ventilation, and houses the heating equipment for two buildings. During the winter months the furnace and steam pipes increase temperatures and very often stored canned foods explode. Even here the space is limited. There is not sufficient storage space for the necessary supplies that should be available, therefore they must be replenished more often than would be normally necessary.

After peering into every nook and cranny of the two main buildings we went to a large old barn situated approximately 250 yards from the school building which we were astonished to learn housed the so-called gymnasium, serving as an important part of the school's training.

The space given over to this project is heated with two small gas stoves so that boxing, wrestling and self-defense methods can be taught. In the wintertime it is almost impossible to utilize the building unless it is preheated for at least twenty-four hours in advance of its use.

The barn also is used for tool storage of a makeshift nature. No work shops for repairs, painting, etc., are available although these are fitted into smaller spaces wherever sufficient room can be found.

What to do with the student's automobile is another perplexing problem. There is limited parking space in a lean-to shed attached to the barn, available to about eight automobiles, but even this isn't fully enclosed to protect the machines from the elements in winter and it is difficult for the officers to get their cars from the parking space to the school, particularly when there are deep snows.

It's really astonishing to see just how all available space is fully utilized at this school. Even corners take their part in the program.

State-owned automotive equipment is stored in two garages situated near the main building, both of which are unheated and in poor physical condition.

"While we are not grumbling about our conditions," Mr. Shaffer pointed out protectively, "We are hopeful that some means can be devised whereby a new and more modern building to meet our increasing demands can be erected."

"Crowded conditions are drawbacks to good work, good nerves and good health."



Some individuals consider crowded conditions to have some advantage, inasmuch as they tend to bring a much closer relationship among the students in personal as well as class affairs. This may have its good points but when the crowd gets too thick for comfort and personal conviences then it can boomerang.

Such crowded conditions are a drawback to good work, good nerves, and good health.

The errors in comfort which seem predominant at the school aren't due entirely to the fault of the Game Commission. Instead, the Commission fully realizes the unfitness of the facilities, lack of equipment and the need for a more modern and roomier structure and apparently would like to remedy the situation.

However, the matter of financing the project has caused considerable brow-knitting on the part of the Commission Members. The proposed equipped building to accommodate the needs was estimated at $250,000, and if erected, would then permit the use of the present building for housing the staff and their families.

It was felt by the Commission that taking that much money from the Game Fund in a lump sum would severely handicap the Commission's program. Other means for underwriting the cost have been given consideration and for some little time the Commission has been working on the problem. So far it is not known whether or not they have surmounted the hurdle that looms like a concrete wall, namely, the appropriation of such a large sum from the annual income of the Commission.

The subject of the new school came up at the July meeting of the Commission and the members authorized the hiring of an architect to draw plans for a new building that would fully accommodate their needs. This is at least one step forward in the attainment of the ultimate goal.

Every sportsman and citizen should be justifiable proud of the fact that the Pennsylvania Game Commission was the first such organization in America, or the world for that matter, to establish a conservation training school for the purpose of training its personnel in game management, law enforcement, propagation and food cover work so necessary to the successful conservation of our natural resources.

Also this school has gained national reputation for its training course and for having developed one of the finest field forces in the country. Its plan has been adopted by several other states and at the present writing other Conservation Departments are seeking information on the methods applied so that they, too, may adopt a similar program.

In many instances conservation officers' schools in other states have stepped out and passed Pennsylvania's Pioneer School, in that they have provided modern and up-to-date facilities and equipment. If our state is to maintain its conservation leadership in the nation, then something should be done about providing modern school facilities, and soon. The old school has served its purpose, the future demands progress.

As has been pointed out, the location is excellent; in fact far beyond expectation. Sorrowfully, we cannot say the same of the facilities. There is no doubt in our minds of the need for the new school building and better facilities. However the Commission is earnestly striving to obtain modern class rooms, better living quarters and better working conditions for both staff and students. Especially is it striving for the students who will eventually serve all the people of the state through conserving and protecting the game and natural wildlife resources which is our rightful heritage.

. . . The End

Almost — but Not Quite

by Horace Lytle



"What d'he pay for her?" The query was more a demand than a question.

ON THE season's opening day, two aging hunters invaded their favorite woodcock cover. Soon their Setter came to stylish point, facing the crumbling remains of an old rail fence. Hastening forward, the partners flushed two woodcock and each bagged one.

Smoothing the feathers to examine his prize, Doc Whitehead said: "*Flight* bird. What's yours?"

"Flight, too," decided Sam Laney, bird dog authority and field trial judge. "Day's most too pretty—but looks like they're here."

"We better work north," said Whitehead—"looks t'ave been pastured some."

Fascinating but mysterious describes the woodcock. But these hunters knew that flight birds presaged good shooting; knew they seek pastured ground; and had a dog that knew his business. The result was good sport and no cripples.



En route home, they stopped at Jack's Place for a snack. "Came quick today," Doc said. "D'you realize we both went straight for our limits?"

"Two of your shots were better than any of mine," Sam said, sipping his coffee.

"With that little gun you shoot I'd have missed 'em," Doc snapped back at him.

These two old pals were ever quick to defend the other against even himself. When it came to shooting, neither needed much defending. Doc had one weakness, though: He'd get *too high* on any dog he owned. Some rated it. Others didn't. One, a bitch, Sam couldn't tolerate; and Doc had never forgotten the day his pal had accused her of never finding a bird—adding that he didn't believe she'd point one if she did. That, as the previous season ended, had almost cracked the ice wide open. Almost—but not quite.

"Doc," Sam said, as he lit a cigarette and let a ring of smoke float out over his head, "I think Duke today was better than he's ever been."

Doc smiled happily. "Yes, an' I figure he's so good he's *enough*. Let two different fellows breed to him on a puppy proposition. With a couple young ones to be bringing along, I've let all the others go."

"Was a fellow from Connecticut wrote me sometime back wanting to get a woodcock dog," Sam said reflectively. "Ever hear from him?"

Doc gulped a sizeable swallow of coffee. "Think so," he said—I guess he was the one."

"D'he buy?"

Doc emptied his mug, and called the waiter to fill 'em up. It was much as though he hadn't heard the question.

"I can't recall the man's name," Sam said. "Did he *buy?*"

"Name was Parks—John C. Parks."

"Now I remember! *What* d'he buy?" Sam was persistent.

"Just one, an' took her along in the car. Tickled with her, too." Possibly Sam hadn't noticed that Doc's jaw tightened as he said it.

"Bitch, eh? *Which?*" Sam persisted.

"Rena." There was marked defiance as Doc spoke her name.

RENA! The bitch Doc well knew Sam rated the most no 'count canine he had ever seen; and sold to a man of whom Doc would never have heard but for him. Even if Doc really believed in this bitch, he still had no right to palm her off on someone Sam had sent to him.

"What d'he *pay* for her?" The query was more a demand than a question.

Doc was slow to answer. He first drained his second mug of coffee. Then: "Two hundred and seventy-five dollars."

"WHAT!" Sam caught himself and seemed almost calm as, with deliberate enunciation, he breathed: "She wasn't worth even seventy-five dollars, much less the two hundred plus."

"That's what *you* say—"



Horace Lytle, one of the nation's foremost authorities on gun dogs and author of many books on dog training, has long had a deep-interest in Pennsylvania and its hunting. It is a privilege for GAME NEWS *to present this fine dog story and to welcome a new author to our pages. With the full realization that good hunting dogs are great conservation assets, we are proud to present this outstanding fictional writing from the pen of Horace Lytle, grand old man of the gun dog field.*

Just then the waiter interrupted: "Doc—I near forgot to tell you —you're wanted out to Bill Brown's right away. Cows got into his pasture an' a couple of 'em down from guzzling apples. Bill called just 'fore you came in an' said be sure to tell you if you showed up. I got busy and never thought of it till just this minute."

Coldly Doc said to Sam: "I'll drive you in. It's on the way."

No further word was spoken between them. The storm had not blown over—it was but a lull. Mary Whitehead came in before long and found Sam sitting alone. Surprised that the hunters had returned before noon, she said:

"You quit early!" Then: "Where's Doc?"

"Got two limits in less than two hours," Sam told her. "Doc's gone to the Brown place to see about some cows."

Mary laid packages on the table and sat down. "Sam," she said, "you never liked Rena, and neither did I, but we must have been wrong. Doc sold her for $375."

"THREE hundred and seventy-five dollars! Are you *sure?*"

"Sure I'm sure," she answered quickly. "I took the check to bank myself."

"Did the man who bought her see her work?" Sam asked.

"No. He said you had recommended Doc and that was good enough for him. He bought her and drove off."

Mary answered the door bell and signed for a telegram. It was addressed to Doc but she opened it and read: "Rena killed by car today front of our home." She showed it to Sam.

Handing it back, he exclaimed: "Well, that's *luck!*"

"Luck?"

"Yes, luck—for now he'll never know how worthless she was. This might have happened had she been the best dog on earth. Her new owner

is lucky not to know that she wasn't. Doc's lucky, too—and so am I."

"Sam, you're *mad!*"

"No, mad's not the right word, Mary. I'm *mystified.* Doc's true blue. We both know that. But, on my recommendation, this man came to him to buy a dog. The bitch Doc sold him was one he knew I would not recommend. And *that* Doc had no right to do. We're all out of it lucky, though—an' that's that. I'll get my things together and head on home."

"SAM!" Mary grabbed his arm, restrainingly. "Sam, don't do that—it'll break Doc's heart."

"He's broken mine. I'm leaving. It's better that way. It'll give Doc a chance to think it over."

Mary Whitehead saw Sam out to the car. He said to her: "You understand how I feel. Try to get Doc to see my viewpoint. He will—some day. Our friendship mustn't be broken. Right now it is *almost—but not quite.*"

Sam Laney found it futile to try to fathom what could have possessed his old pal. Any light failed utterly to dawn. And then, one night the phone rang. It was Mary Whitehead calling.

"Listen, Sam," she said, "I've never seen Doc so upset. You've just *got* to come up here. Promise me you will. The way you left has affected Doc more than anything I've ever known. Far more than had you stayed and argued. He may try not to let you know it—but it *has.* Everyone is still finding woodcock, but Doc hasn't even been out since you left. That'll tell you how he's feeling. Please don't say you won't come."

"Tell me this first, Mary," Sam cut in. "Have you any angle on the *why* of it?"

"Yes," she said, "I think so. Just a typical situation of a man and his dog. Doc knew Rena wasn't good. But she represented his old blood—and he's always loyal to that. Had



you not said so much, I believe it would never have happened. You'd rubbed Doc just a little *too raw* about her. So, when he sensed this man would pay a good price, his bravado spirit got the better of him."

"Mary, there's one thing you don't know," Sam said into the receiver. "Doc had told me the price was $275. Later I found out from you that it was $375. That's another angle I can't figure."

"I can answer that," Mary told him. "He had meant to tell you the correct price and boast of it. But he got cold feet when he faced you. That he lied to you is fretting him as much as anything else. Don't let him brood over it another year. You two are getting no younger."

"I'll start up tomorrow morning," Sam told her.

When Sam Laney arrived at the Whiteheads' for the second time the same season, Doc rushed out to the car. The grips of greeting would have pained the fingers of less hardened men. But neither spoke. It was just as if there'd been no parting. Mary had goose for dinner, knowing Sam's fondness for it. Three of their hunting friends came in to spend the evening and the talk was

all of woodcock and the best season in many years.

Doc ate a hurried breakfast the next morning, excused himself and said: "Sam, I'll be back shortly—an' you be ready."

"Where's he gone, Mary?" It wasn't like Doc to let anything delay a hunt.

"You'd never believe it," she said, with a smile that shone—"but he's gone to borrow Tom Simpson's dog for you two to hunt today."

"But where's *Duke?* Not sold him, I hope. Doc's never owned a better one."

"No, he didn't *sell* him," and Mary's face showed the contentment of her heart, "but *he's gone.* Doc has two of his puppies due any time now—but there's nary a dog on the place at the moment.

"Doc told me about the expected puppies—but I can't figure what's happened to Duke. Why isn't he here? Is he sick?"

Mary said, "He's in the best of shape—or was when Doc shipped him to John C. Parks in Connecticut. My guess as to the *why* was his love for a certain hunting partner. And the price, which you haven't asked, was *not a cent in the world.* Doc even prepaid the express."

Sam's third cup of coffee got cold. But there was no coldness in him anywhere when, a few minutes later, he hurried out to hunt again with his friend. As he was about to get into the car, he suddenly turned and ran back to the porch where he whispered to Mary:

"D'you remember when that wire came I called it *lucky!*"

. . . *The End*

AUTHOR TELLS HOW TO PRODUCE PLENTIFUL GAME SUPPLY

Wallace Byron Grange, author of the widely accepted book "The Way To Game Abundance," made the following observations in the concluding chapter of his work:

"Conservation is the science of man's successful living in relation to nature and her resources. We are not a thing apart, a species apart. Our habitat on earth includes the soil, the forest, the mountain, the farm, the predator and our game species. Man knows the technology of abundance if he will only apply it. Man can be wasteful, destructive, foolish, heedless of the consequences of his acts and so despoil his own habitat. Temporarily he can ignore erosion, uncontrolled forest fire, depletion of soil fertility, extermination of valuable species and unique plant patterns, pollution and the loss of his birthright as a creature of nature. But he can do this only so long. Eventually the penalties of habitat deterioration must be paid by the human species, as by every other animal species.

"It is not alone the primeval wilderness we need. Closer home, we need the semi-wilderness, the commercial forest, the lake cottage in the woods, the farm woodlot, the fencerow thicket, the undrained marsh, the tiny pond and the sound of water tinkling over the beaver dam. The way to game abundance lies in the preserving, creating and expanding the units of native vegetation which are, as we have seen, wilderness fragments. Their restoration can give us a more beautiful, more pleasant, more productive and more satisfying America."





Outdoor Kids

By Hal H. Harrison

BILLY came home from school one snowy day in January with a new idea. That morning, the teacher in geography class had told the pupils about shadows produced by the sun. She had explained to them that it was possible to tell the time of day by measuring their own shadows against the snow on a sunny day.

"You can do this by making a sort of shadow stick out of your own body," Billy explained to Jane. "The teacher said that this game is played in the same way that folks tell time by the sundials in their gardens," he added.

Billy and Jane played this game several times during the winter and sure enough it worked. Of course, they were not able to tell the time of day to the very minute, like a clock, but by knowing how long their shadows are at say 9 o'clock in the morning today, the children could tell it was 9 o'clock some other morning by measuring the length of their shadows.

If they knew how long their shadows were at noon today, they would be able to go home for lunch some other day just about on time if they went home when their shadows were the same length that day.

The shadow game can be played only for a week or two without checking again, because the length of a shadow changes with the seasons at the same time of day. The length of the children's shadows at noon in the winter would be much lower than the length of their shadows at noon in the summer. That is because the sun is farther south in winter than in summer.

Generally, shadows point west in the morning and east in the afternoon. A short shadow (less than knee length) usually indicates sometime around noon. Long shadows (several times as long as you are) indicate early or late in the day.

Only in the spring and fall equinox (March 21 and September 21), when the sun is directly above the Equator, does it rise exactly in the east and set directly in the west. Equinox means "equal nights" . . . the length of the night is equal to the length of the day.

At the summer solstice (June 21), the sun reaches its farthest point north and we have the longest day in the year. At the winter solstice (December 22), it reaches its farthest point south and we have the shortest day in the year.

Many years ago, the poet Shelley recognized this movement of the sun when he wrote: "If winter comes, can spring be far behind?" When the winter solstice brings us to the first day of winter, each day from that point on becomes a little longer than the day before.

The hand of a sundial is called a gnomon (no mon), which is a Greek word meaning "one who knows." Thus, the gnomon, which throws its shadow across the face of the dial, "knows" the time of day, just as Billy and Jane know it when they tell time with their own shadows.



PGC Photo by Cady

Throughout Pennsylvania last year, signs such as this pointed the way to State Game Lands, living examples of a modern wildlife restoration program.

Lackawanna County
Home of Hard Coal

(Fifth in a Series)

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the center staples.

Lackawanna County, beside its distinction of being the most recently founded county in the Commonwealth, is widely known for its industrial activities, especially in anthracite mining and textile manufacturing. An area taken from Luzerne County in 1878 was established as Lackawanna County, the name being suggested by the small river which flows through its principal valley.

Land Area

The county contains 293,376 acres of which 192,361 acres are forested and 101,015 acres are in non-forest land. There are 108,814 acres in farms. There are 9,644 acres of publicly owned land including 4,308 acres in State Game Lands and 5,283 acres in State Forests.

Transportation

The county contains 1,242 miles of public roads, including 425 miles of State Highways and 817 miles of County, Township and Municipal roads. The Roosevelt Highway (U. S. 6), the Lackawanna Trail (U. S. 611) and other important routes traverse the county.

Topography

Characterized by rugged mountains and deep valleys, the county is noted for its glacial formations. A famous "pot hole" is located near Carbondale. County also contains many beautiful lakes which have been developed as summer resorts.

District Game Protectors

Philip S. Sloan, R. D. 1, Dalton, has jurisdiction over Benton, Greenfield, Fell, Bonds, Car, Scott, North Abington, Abington, West Abington, Bensom and Jefferson Townships.

Stephen Kish, 1420 Grove Street, Avoca, has jurisdiction over Roaring Brook, Lackawanna, Madison, Spring Brook, Covington, Clifton and Lehigh Townships.

Fish Warden

Keith Harter, Dalton, has jurisdiction over the county.

District Foresters

Manuel Gordon, 316 N. Washington St., Scranton, has jurisdiction over State forest land in the county.

Historic

A Muncee Indian Village, Capoose, stood on the present site of Scranton when first settlers arrived in 1771. The disputed claims of the Yankees from the Connecticut Colony and the Pennamites from the Pennsylvania Colony were finally settled after the Revolution by the Decree of Trenton in 1782. In that year the territory that is now Lackawanna County was duly recognized as part of Northumberland County. In 1786 when Luzerne County was separated from Northumberland in order to stalemate the Connecticut settler's agitation for a new state, it included this rich anthracite region.

The early industrial history of the


SUSQUEHANNA
WYOMING COUNTY
LUZERNE COUNTY
Fleetville
Tomkinsville
LoPlume
Croig
Dolton
Woverly
Montdole
MONTOALE TOWER
Clarks Summit
Clark Green
Justus
BLAKELY
Chinchilla
DICKSON CITY
OLYPHANT
THROOP
Newton Centre
Milwaukee
SCRANTON
DUNMORE
Ransom
TAYLOR
SCRUB OAK TOWER
Elmhurst
OLD FORGE
MOOSIC
GREEN RUN RESERVOIR
Rockdale
NO. 91
WATRUS RESERVOIR
BIG SHINEY TOWER
NO. 511-A
PINE HILL TOWER
NO. 511-B
NO. 135
Prevent Forest Fires and Save Game

Farm Youth and Wildlife



NOTE: This special insert in the GAME NEWS is designed for conservation education use. It may be removed intact without damaging the magazine by simply loosening the upper and lower staples through the center pages. Do not remove the staple in the middle —it will retain the pages intact.

A "GAME NEWS" CONSERVATION EDUCATION PAMPHLET

JANUARY, 1951

FARM YOUTH and Wildlife





The other day we received the following letter:

Nov 20th. 1950

Penna Game Comm.
Harrisburg. Penna.

Gentlemen:

At a recent meeting of our Future Farmers of America Association we decided to undertake some project which would help increase the Wild-life, especially the Quail which we seldom see or hear anymore in our section.

Will you tell us what we can do to bring these and other wild creatures back to our farms?

Hoping to hear from you soon.

Very truly yours.
John Bunner
Secretary-



HAIN WOL

Mr. John Brunner, Sec.
Future Farmers of America
Englewood, Pennsylvania

Dear John:

It has been a long time since we've received a letter which pleased us as much as your note of the 20th. It is'nt often that we receive offers of help although goodness knows we could use all kinds of it these days.

First thing we did was sharpen our pencils, and start writing down all the many things we wish to suggest which may be of help to you and your organization, and then turned it over to our artist — BELOW.

Mostly it is you fellows who can do more for the WILDLIFE than we can. We are only a small organization with but a



couple of hundred Game Protectors to protect, feed and improve conditions for wildlife and control its enemies over 45,126 sq. miles of land.

Nearly all of our programs are offered by way of suggestion. Hoping that the diffrent groups interested will take them seriously and use their manpower and facilities to perform the job they are best equipped to do.

You are one of those groups. You can do a big job, a splendid job. As potential Farmers you know full well that the soil is one of NATURE'S biggest and most important banks. It must always be kept solvent. If EROSION ever succeeds in making a run on it our civilization will soon waste away. You can help by checking EROSION wherever you can. Here are some of the ways you can do it. When they are done the fields and woodlands will resound to the melodious call of the Bobwhite, the bossy crow of the cock Phesant and the morning chorus of countless songbirds without all of which no farm is truly a farm.



On the next page we will take a hypothetical farm which needs a few modern touches to increase


NO
HUNTING
NO
GAME
HAIN WOLF

its crop yields and to attract the wildlife which helps to control CROP ENEMIES and see what your club can do about it.

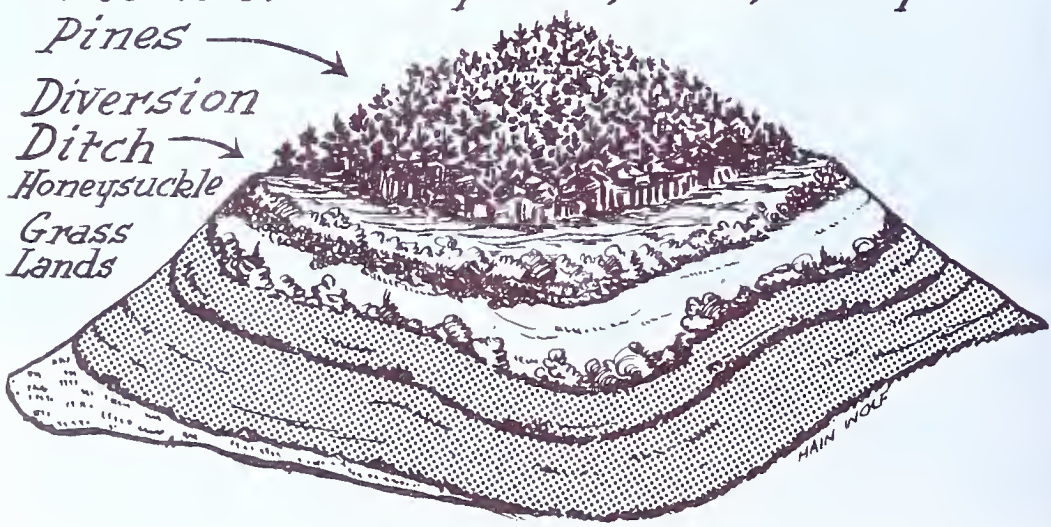


CAW READ THIS READ THIS CAW!

Take that high knoll too steep for cultivation. Heavy rains will have cut into its unprotected surface deeply. Pretty soon the yawning gullies of erosion will appear. The soil will wash to the lowlands after each heavy downpour. The large unprotected crop fields, with no ground cover crop, diversion ditch or terracing to hold the moisture, will gradually become full of gully and sheet erosion and production will go down. Away will go the Cover and Food for Wildlife too—

Now here is what we suggest that you do to prevent these conditions if they exist on the land you eventually farm or may be living on now.

Plant a succession of Evergreens on that knoll - Spruce, Pine, Juniper -



anything that will hold the soil and prevent water run off. Then at the base put in a row of Dogwood and Bush Honeysuckle mixed here and there with a Judas tree; or a hedgerow of Multiflora Rose or Privet it would perhaps be better yet to put in a diversion channel first. This at the base of such an abrupt hilltop or hillside will carry off excess water before it reaches the fields and the plants around its earthern breast will through their root net-work, further bind the soil. If you dont want to plant the hilltop to trees you can retire it to permanent grasses or clover.

Next let us fill or plant all gullies to halt and further retard the damage done by erosion. Mix the planting to provide some good soil holding ground cover, some trees, Honeysuckle, Berries, etc. They will prevent further erosion and water run-off and beautify the landscape. There is nothing so pleasing to the eye than a Farm after its nature destroying sores are healed. It is like a crippled body made fresh and new.

Where small runs or streams occur they should be protected from the enroachment of cattle, whose hooves deeply cut the banks which grow deeper and deeper after each succeeding rainfall. As they crumble more good top soil is washed rapidly away and ere long a once picturesque stream side is but a yawning Gorge. Next page shows BEFORE and AFTER condition of a typical Stream.



Streams should be dammed and Farm Ponds constructed to provide water for livestock, for use in case of a fire, for recreation and for attracting WILDLIFE.

Where marshy areas occur they should be protected and improved to provide homes for MUSKRATS, MINKS *and other fur-bearers. These desirable creatures are by-products of all farm marsh areas and upgrown stream banks, and provide considerable pocket money to the farmer boy who is eager to match wits against their cunning. From $1,000,000 to 2,000,000*



is paid to Pennsylvania trappers by fur dealers annually much of which goes into the pockets of the thrifty farm youth.

But REMEMBER! that money wont JINGLE in your pockets if those farm ponds are not FENCED and the banks are not planted with soil holding grasses and shrubs. They will suffer the same fate as an unplanted and un-protected stream bank. It will have been a waste of time building them.

Manage the woodlot so that there is always a succession of useful trees that can either be harvested for use around the farm or sold. But always save a few den trees for RACCOONS, SQUIRRELS and other cavity nesters.

Some of the fruit-bearing shrubs and vines which furnish food for Wildlife which should be left uncut in woodlots are wild rose, dogwood, thorn apple, blackhaw, grape, crabapple, elderberry, sumac, blackberries, raspberries and huckleberries.




COOPERATION WINS
GAME COMM.
FARM GAME
PROGRAM
HAIN WOLF



Bare fence rows should be planted to FOOD BEARING trees, shrubs and berry bushes. Where no natural fencerows occur hedgerows of Multiflora Rose will provide impenetrable barriers against livestock, furnish ideal cover for Wildlife and a colorful border the whole year round. With their beautiful blooms in the spring and summer plus clusters of bright red berries in fall and winter, these vigorous plants will furnish you a living fencerow in from three to four years.

Odd corners can be reclaimed, beautified and made useful by planting.

Windbreaks serve many useful purposes from protecting houses and buildings from northern exposures to keeping drifting snows from roads and lanes. They are attractive and furnish cover for WILDLIFE and homes for Song Birds. Cedars, Osage Orange and Multiflora Rose can be planted as WINDBREAKS depending upon the landowner's preference. Cedars are especially attractive and make excellent Windbreaks.



LIVE MOUSE TRAPS

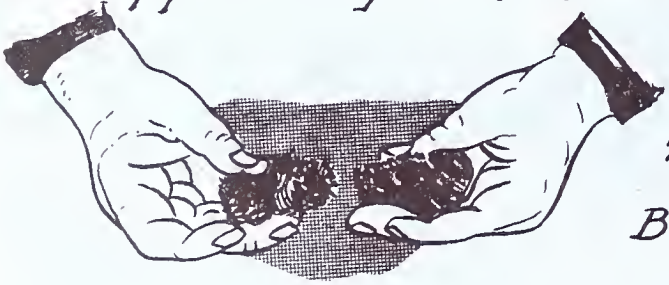


If you are a wise farmer you will not kill HAWKS and OWLS unless you know for sure that they are killing Poultry or Wildlife. If you shoot them indiscriminately you will undoubtly kill many good friends.

Lucky for example is the farmer who has a family of BARN OWS in his loft. They absorb RATS and MICE like a child absorbs candy and are "Flying Mouse Traps." The long and short-eared owls and the little SCREECH OWL also falls in that category. The Red-Tailed and Red Shouldered Hawks also eat many mice and the little Sparrow Hawk can't get enough GRASSHOPPERS to satisfy his ravenous appetite.



OWLS disgorge the fur, feathers and bones of the creatures they eat in Pellets which look like short loosely wrapped Cigars. For detailed information on Hawks and Owls write for booklet "Pennsylvania Birds of Prey."



The BLACKSNAKE also destroys many mice and other small rodents. It robs bird nests, too. But if there are lots of Mice and Rats around think twice before you destroy the Blacksnake.

Various NUT TREES and berry producing plants beautify the farm and provide beneficial food for both your Family and Animals. Nut trees such as Black Walnut, Shagbark Hickory and Oriental Chestnut add much to the value of any farm, besides serving the useful purposes mentioned above. Most commercial nurseries can provide these plants and number you will require depends upon the area available for such use. Now lets take a look at the BLACK WALNUT.



50' to 150'



Leaflet



Branch 1 to 2'

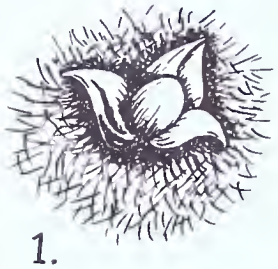


1½" to 3" dia.

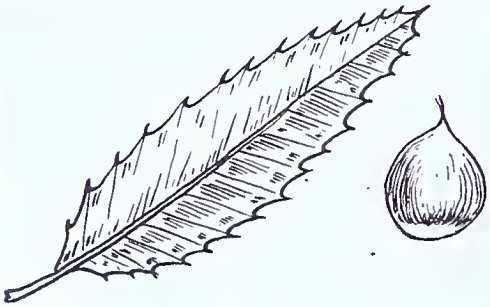
In as much as most Nut trees are also ornamental they should not be planted too close to each other. If a grove or orchard is desired Black Walnut, Shagbark Hickory and other tall growing nut trees should not be spaced less than 60' by 60'. Ornamental Chestnut, on the other hand, are lower growing and can be planted as close as 40' by 40'.

REMEMBER that for proper Pollination the planting of single trees especially of Chestnut, is not desirable. Other fruit producing trees and shrubs which increase the value of a farm are Persimmon, Mulberry, Elderberry, Honeysuckle, Flowering Dogwood, Silky Cornel, various viburnums and many others, these are especially useful along Fencerows and in between Woodlots and Cultivated fields.

Now see If You RECOGNIZE the following..



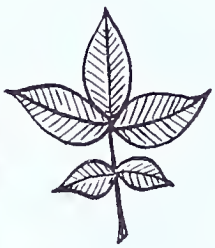
1.













2.



3.



2.





HAIN WOLF

ANSWERS PAGE 15

Still other plants which serve a useful purpose are perennial grasses and clovers, including Serecia lespedeza. Used as borders around cultivated fields and on headlands they provide space for turning and roadways for farm equipment. Wildlife uses such areas for nesting and for much needed protection against its natural enemies.



Nearly all of these plants attract Songbirds, without which no farm is complete. They animate the landscape with their color and beautiful songs, but their value does not end there. Most Songbirds more than earn their keep because of the destructive insects and useless weed seeds they eat. Their ceaseless activities result in a greater cash return to the person who attracts and harbors them. It is false economy to create conditions which discourage Songbirds.

There are many other ways in which you can help, but space will not allow us to include them. If your interest continues we shall be glad to tell you about other activities which benefit Wildlife. It is only through you and others with similar interests that FUTURE generations will be able to share with us the enjoyment which "Creatures of the Wild" provide.



1. Chestnut 2. Shagbark Hickory 3. Persimmon.....

PUBLICATIONS

COMMONWEALTH OF PENNSYLVANIA, Game Commission
Pennsylvania Game News, $.50 per. year.
Pennsylvania Wildlife, $.25 per. copy.
Pennsylvania's Cooperative Farm Game Program
Well, Whats Wrong?
Pennsylvania Birds of Prey $.25 per. copy

U.S. FISH AND WILDLIFE SERVICE, Washington D.C.
Improving the Farm Enviroment for Wildlife,
Conservation Bulletin No. 12
Attracting Birds, Conservation Bul. No 1
Feeding Wildlife in Winter, Conservation Bul. 13
Bobwhite Quail Propagation, Con. Bul. No. 10
Plants Useful in Wildlife Management Bul No. 7

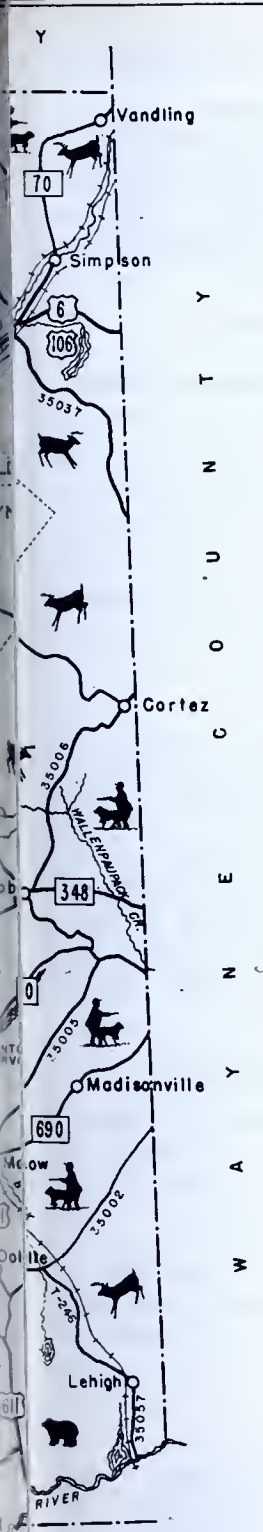
DEPARTMENT OF AGRICULTURE (Soil Conservation Service) Wash. D.C.
What is Soil Erosion - Misc. Pub. No. 286
The Work of the Soil Conservation Service.
Strip Cropping for Bigger Yields.
Our American Land.
How to Build a Farm Pond, leaflet No. 239

A more complete list of publications available upon request to the Pennsylvania Game Comm.

Text and Design by Leo A. Luttringer



Art & Layout by Hain Wolf



···KEY···

- County Seat.
- State Forest Fire Observation Tower.
- Game Pratectar's Headquarters.
- Game Prapagation Area.
- Bear Hunting.
- Deer Hunting.
- Wild Turkey Hunting.
- Small Game Hunting. { Grause, Pheasant, Rabbit & Squirrel.
- Railrood.
- Stream.
- State Farest Lond.
- State Game Land.
- 511 — Primary State Gome Refuge an State Forest Land.
- 307 — Pennsylvania Route Number.
- 11 — U. S. Highway Raute Number.
- 35045 — Legislotive Route Number.
- Township Raute.

PENNSYLVANIA
GAME COMMISSION

LACKAWANNA COUNTY

PENNSYLVANIA

0 1
Scale in miles

L.A.M.

county developed from a belief that iron ore and limestone could be found in sufficient quantities to make production of iron and steel profitable. The first forge or furnace was erected at Old Forge in 1789 by Dr. William Hooker Smith. The furnace was fired with charcoal and most of the ore was surface, not mined, ore. Ebenezer and Benjamin Slocum about 1800 added a forge for the manufacture of iron to their sawmill, blacksmith shop, distillery and gristmill which were located at Unionville or Slocum Hollow on the present site of Scranton. These forges were no longer in operation in 1840 when the Scranton brothers, George W. and Sheldon T., bought land at Slocum Hollow in order to build iron furnaces. The manufacture of iron and steel was an important industry until 1902 when the mills were moved to the shores of Lake Erie in New York State in order to eliminate transshipment by rail of iron ore from Lake Superior ore centers.

During the period 1840-1851 Slocum Hollow was known successively as Harrison (in honor of President Benjamin Harrison), Scrantonia and Scranton. The first railroad in the county was a gravity line from Carbondale to Honesdale, built in 1829 to connect with the Delaware and Hudson canal. The first underground anthracite mine in the world was opened in Carbondale in 1831. The site is now marked by a tablet on Seventh Avenue.

Industry

Products of Lackawanna County's widely diversified industrial plants, ranging from lace to locomotives, literally go around the world, but anthracite coal mining is still the county's largest single industry. For many years the area has been second in rank of silk manufacturing districts in the United States. Its silk mills are now largely converted to nylon and rayon production.

The county is the center of a tremendous textile industry, nationally known products of which range from workmen's overalls to women's fineries. It boasts the country's largest Nottingham lace mill in Scranton. Scranton, the third largest city in the State, is the county seat. It is the birthplace of the Delaware, Lackawanna & Western Railroad whose general offices are located there, as well as locomotive and freight car shops. It is the home of the internationally-famous home study institution, the International Correspondence Schools and Women's Institute.

Recreation—Hunting

Despite Lackawanna County's intense mining, it furnishes both large and small game hunting, with an occasional bear being bagged. Two tracts of State Game Lands are located in the county—a portion of Number 91 near Rockdale and Number 135, comprising 2,808 acres, near Clifton and Goldsboro.

Recreation—Fishing

Fishable waters (name of stream, fish stocked, location and length of stocked waters) include: Choke Creek, brook trout, Thornhurst, 4 miles; Gardners Creek, brown trout, Milwaukee, 5 miles; Lehigh River, brown & rainbow trout, Gouldsboro, 8 miles; Roaring Brook, brown trout, Elmhurst, 6 miles; Tunkhannock Creek, S. Br., brown & rainbow trout, Factoryville, 12 miles; Baylors Pond, black bass, Fleetville, 100 acres; Chapman's Lake, black bass, Dundaff, 98 acres; Crystal Lake, black bass, Dundaff, 191 acres; Deer Lake, black bass, Fleetville, 35 acres; Handsome Lake, black bass, Fleetville, 25 acres; Newton Lake, black bass, Dundaff, 112 acres; Sheridan Lake, black bass, Fleetville, 90 acres; Susquehanna River, N. Br., black bass, Ransom, 2 miles.



Turkey in the Straw

MIDDLEBURG — On Thursday, October 19, while patrolling on SGL No. 212, Union Twp. Snyder County, I found a stocked wild turkey that had been killed on a recently seeded wheat field. It was very foggy and the ground soft. Upon examining the turkey, it had only been killed probably two or three hours previous. Its head had been torn off and feathers found in three different places in the field. Its body was bruised and no teeth marks could be found. At first, I thought it was killed by dogs; however, no dog tracks could be found anywhere. The only tracks were those of a large deer and they were at the three places where feathers were found. I am of the opinion it was killed by a buck that came across it while feeding in the field that foggy morning, probably goring it to death with his antlers.—Game Protector Raymond E. Holtzapple, Middleburg.

What'll You Have

TIOGA—Manager "Bucky" Watts and several patrons were enjoying an unusually warm October evening recently at the Blackwell Hotel, when they were suddenly surprised to see a yearling bear enter the open door and jump up onto the bar. After a brief look around the room he made his exit as quickly as he entered, apparently to seek his favorite brand elsewhere, much to the relief of those present.—Game Protector James A. Osman, Tioga.



Something Wrong With Rabbits

MANOR—Recently a farmer in the vicinity of my new Farm Game Project was telling me that he thought the wild rabbits were being bothered with some sort of disease. This subject came about while we were discussing the rabbit population this season. The last spring was ideal and we had many good litters of young rabbits. However, he told me that his boy had sold all his tame rabbits as they were getting some disease. He told me of two occasions when he saw wild rabbits act the same as his boy's tame ones had acted. The rabbit appears to be normal, but upon watching it for a few minutes, it will go through actions that make it appear as though it is crazy. It will first stiffen out its hind legs and seem to drag them along, then it will again act in a normal manner. Next its head will turn to one side and it will move as though it has a stiff neck. In a few minutes it appears to be normal again and then shortly will go through the same actions. We are trying to find one that acts as this man related and hope to kill it and have one of the colleges in Pittsburgh analyze it. Since talking to him I have heard of three others who had to get rid of their tame rabbits. He may have something at that.—Game Protector LeRoy L. Logan, Manor.



Corn On the Cob

PHILIPSBURG—It seems no matter how long one has been a Game Protector or studied this work there is always something new coming along. Early in October I was called to Huston Township to check a damage claim on corn. The field was near a small stream and muskrats were carrying away the corn. They had paths where they had carried the corn into the creek and their dens. At one place where the water was about two feet deep I counted at least fifty ears of corn in the water. This is the first time I have ever had an experience like this or ever heard of it in this part of the state. I would estimate they had taken at least ten bushels of corn.—Game Protector Clyde W. Decker, Philipsburg.

Mouthful

HOWARD—This fall I watched a gray squirrel and a fox squirrel cut and clean hickory nuts high up in a hickory tree. I watched them for about a half hour and they never once dropped a hickory nut to the ground but kept shoving them back in their mouths. At last count the gray squirrel had six cleaned and stored in his mouth while the fox squirrel had five in his mouth. I moved and they quit cleaning nuts and sat still in the tree for some time. Finally the fox squirrel came down the tree close to me and I could see that his mouth was full of hickory nuts. I watched them through the binoculars issued to the field men.—Game Protector Joseph W. Kistner, Howard.

White Race

KNOX—The community of Knox seems to have more than its share of oddities in the ringneck pheasant population. When the Knox Bucktail Sportsmen's Club received the day old chicks from the Western Game Farm in June, 1949, there were several white birds in the group. Two of the white pheasants were kept over winter, one a cock and the other a hen. This spring the hen laid more than eighty eggs, which were given out to farmers in the community to hatch. Every egg that hatched produced a pure white bird. One of the wild cock birds of the community decided to go one better and started courting a game chicken belonging to Barney Kahle of Knox. When her eggs hatched, sure enough, the chicks had the markings of a ringneck. We are anxiously waiting for the chicks to grow up to see which strain will dominate.—Game Protector Donald M. Schake, Knox.

The Goose Hangs High

MILFORD—In the early part of October, I noticed larger flocks of geese winging south than I have ever seen before. One flock had fully 200 birds in it. A sportsman counted one part of line of the V formation and counted up to 63 birds and was not half way up this one wing of the triangle.—Game Protector John H. Lohmann, Milford.



Home of the Wild

UNIONTOWN—Uniontown's fast growing reputation as the "Home of Displaced Animals" was further enhanced during the past month by two more "Invasions" from the wild.

On October 3rd, a ruffed grouse, straying far from its natural environment in the mountains, appeared in the city and climaxed a brief sojourn by flying through a large plate glass window into the living room of Mrs. Ewing Yauger, 193 Lenox Street. Considerable damage was caused by the incident, the furniture, hardwood floors and new television set were scarred by flying fragments of glass and thousands of tiny fragments were found imbedded in the lounge, bookcase, and other articles. The grouse, of course, was killed instantly by the smashing force of the impact.

On October 6th, an excited man rushed into the "Sports Center," a sporting goods store located on Church Street just one block from the main business section and revealed the startling fact that he had just seen a gray fox crouching in a blind alleyway across the street. His story was first greeted with raised eyebrows, joking comments and sarcastic admonishments to change his brand of alcoholic refreshment but his insistence was not to be denied and eventually one of the clerks walked across the street to investigate. After a brief moment he appeared, wearing an expression of mingled disbelief and astonishment, grabbed a base-ball bat from a rack in the store and again disappeared in the alleyway. A short but hectic struggle followed and he emerged, triumphantly holding aloft the body of a large gray fox whose yen for a taste of city life had been all too quickly fulfilled.—Game Protector Thomas W. Meehan, Uniontown.



The Pheasant Fights Back

SOMERSET—D. M. Musser, a farmer near Berlin reported the following: a ringneck rooster came in to his barn and one of his cats decided to chase the pheasant; however the pheasant turned on the cat and flogged it and then chased it back into the barn.—Game Protector Edward W. Cox, Somerset.

Mercer Masassagua

MERCER—My little Cocker Spaniel was bitten by a baby Masassagua rattler last October on the edge of Rattlesnake Swamp about two miles from Mercer. It was a warm day, the little fellow was sunning himself and the pup nosed him and was hit on the nose. It swelled up somewhat and he couldn't smell any pheasants the rest of the day, but Sunday morning he was as fit as a fiddle. The young of the swamp rattler looks a lot like a milk snake, and I mistook it for one until he bit the pup. They are rare. This was the first I had seen since being in Mercer County, but I have had several authenticated reports of them having been killed in the same section. The section crew of the Bessemer Railroad usually finds several each summer on the roadbed in the "Rattle Snake Swamp" district.—Game Protector Samuel K. Weigel, Mercer.


PENNSYLVANIA'S WILDLIFE

CHAPTER VI

Murder Is Done

THERE is no love greater among men than that which they hold for the land and all that land contains, because it is bound up with their own happiness, that of their children and the future generations.

Pennsylvania's first conservationists so loved their homeland that the greedy interests found they had to fight men who placed the future above the present. Men who had vision and courage, dreams and ideals. These are the things for which men fight and die.

In 1906, the difficulties with the foreign element reached a climax, for during that year 14 Game Protectors were shot at, seven badly wounded and four killed.

One of these Protectors, Seely Houk, disappeared on the Second Day of March and on the 26th of April his body was found in the Mahoning River, loaded with stone. Working with Dr. Kalbfus on the investigation into the murder, brought blackhand letters to Mr. Phillips, also to the Governor and several others, warning them to keep hands off. With the consent of the Governor an Italian Pinkerton Detective was employed and finally Rocco Racco was arrested for the crime.

Following is a report of the trial by Dr. Kalbfus, to the Commission in 1908, which had far reaching results in our history: "I take opportunity at this time to report to you the conviction of one Rocco Racco, the man suspected of killing Seely Houk at the very beginning, and also the establishment through the evidence produced at his trial of a fact beyond question, that this man was aided and assisted in the commission of this murder by his brother-in-law, an Italian now in Italy. I desire to report to you that at the time of the trial of this defendant, the Commonwealth presented evidence, proving beyond the shadow of a doubt the existence of an organization founded in Italy more than 1200 years ago and then known as the Order of Our Saviour, later known as the Mafia. That this organization was founded for the mutual protection of its members and that mutual protection extended to and covered them in the commission of any offense known to the law of any land, so long as the person wronged or injured is not a member of their organization.

"It was proved beyond the question of a doubt that this organization has spread to the United States and that there are many branches located in many parts of this Country, known to its members as the Order of Honor, and to the American as the Black Hand. The defendant himself admitted that he was a member of the Mafia in Italy; that he organized a branch of the same body in Hilltown, Lawrence County, Pa. He admitted that he was arrested and tried six times in his own country for various offenses, ranging from petty larceny to assault and battery with intent to kill. Upon the part of the Commonwealth, his record from Italy was introduced showing that he had been arrested and convicted thirteen times instead.

"In this trial it was proven that Mr. Houk, our Officer, killed a dog running deer, belonging to this defendant; that when he learned his

dog had been shot he said; 'Just as my dog died in the woods, so shall this man die.' That later on he saw Houk along the railroad below his house, that he and his brother-in-law immediately took their guns and sought a position in the woods, to which position Mr. Houk was attracted by the firing of one of the guns. That they laid behind trees and that when the officer came in range of one of them, the brother-in-law fired a charge of slugs into Houk. After he had fallen this man Rocco Racco sprang out, placed the muzzle of his gun almost in Houks mouth and blew away the back of his head. That he was left lying where he fell until after dark, when the body was carried across the embankment of the railroad and deposited in the Mahoning River. That his raincoat was turned up over his head and loaded with stones, so that the body could not float and that it so remained until the water of this river had been reduced in the spring and so clear that the body was readily seen. It was proven that shortly after the killing of Houk, Rocco Racco was expelled from the organization for violation of some part of his oath relative to the treatment of other members. That immediately after this expulsion, he set the wheels in motion to force his reinstatement and in doing this called together a number of the men known as the first class. It was proven that these men were called and came to New Castle and Hilltown from points in New York State and Ohio, and from different points in Pennsylvania. Showing beyond the question of doubt the Mafia or Black Hand is well established in at least three states in the Union. Some of these men came from New York City and from other far away points and the defendant was compelled to pay expenses amounting to about five hundred dollars.

"This defendant himself admitted in cross-examination, that the mutual protection extended to members of this organization covered the commission of any crime, even that of murder, so long as the person wronged was not a member of their own organization. We hope to be able to pursue and punish the brother-in-law now a resident in Italy, so, that, while we have successfully traveled a long rough road to secure the point, the end is not yet reached. I give it to you as it stands."

They had indeed traveled a long hard road. The brother-in-law never was tried, because he fled to Italy and efforts to extradite him failed since there was no extradition agreement between the two countries at the time. Rocco Racco was convicted and hanged.

Following the trial the Commission had a bill drawn up which would prohibit aliens from owning guns. Statistics were presented showing that more than half the game law violations were committed by foreign-born hunters and the Commission maintained that such a bill was necessary for the peace and safety of the Commonwealth as well as for game protection.

The bill was defeated in 1907, but passed in 1909. Immediately the next year, the Commission reported a sudden and marked decrease in game law violations by aliens. However, quite suddenly the Italian Government suddenly stepped in and took up the case of two Italians convicted under the alien gun law. Its representatives appealed the convictions, declaring the law violated the fourteenth amendment and was unconstitutional. When the Indiana County Court declared the law unstitutional, Mr. Phillips with his own attorney and at his own expense, fought for the law through all the State courts and right up to the Supreme Court of the United States

where he finally gained a clear cut victory It still remains on our statute books.

Life became a bit more pleasant for Game Protectors with this settlement and a year without violence was noted almost thankfully in later Commission reports.

Out of this lawless period came several important things—the alien gun law, the breakup of the Mafia in this country, and a new respect and even admiration for the State Game Commission's Officers: Not even the murder of their members could turn them from their duties, and, yet, they tempered their firmness with justice.

This case is related here in its entirety, because of its historical value to all the people and so that it may forever be and remain a part of the glorious history of the Pennsylvania Game Commission and their contribution to the welfare of the Commonwealth and the entire Nation.

. . . *To Be Continued*

Early day Game Protectors often resorted to good "old fashioned" means of covering their districts. Shown here are Game Protectors William Ackey and William Denton, members of a mounted patrol. near Refuge No. 1 in Clinton County.



Who Help Themselves

WOOD DUCK FUTURITY			
ENTRY	CHECKED	USED	ODDS
Northwest	125	47	1 to 3
Northeast	500	163	1 to 3
Northcentral	260	71	1 to 4
Southwest	110	24	1 to 5
Southeast	161	29	1 to 6
Southcentral	73	3	1 to 24

By ROBERT D. McDOWELL

• Final Report Pittman-Robertson Project No. 32-R.

THEY say that all of us are gamblers to some degree. If you're interested enough in improving your sport by taking a chance, this article will tell you how.

There's not a game farm in this country (or any other country) that will take a chance on raising a game bird to maturity *for only a nickel a* head. But you can, Mr. Sportsman, if you're willing to do a little work. If so, read further.

Every spring, thousands of wood ducks fly northward through, and beyond, Pennsylvania. A lot of these ducks would stay with us, raise families, and provide sport in the fall, *if they could find a home.* The wood duck prefers to nest in a hollow tree near water, but this little fellow can't compete against raccoons, squirrels, and owls who also prefer to live in hollow trees near water, or visit such places to add duck eggs, ducklings, or Mrs. W. Duck to their menus. So what you must do is to provide these birds with safe artificial homes.

On these pages is a sketch showing just how to construct a wood duck nesting box. To obtain a working blueprint kindly write the Pennsylvania Game Commission at Harrisburg, Pennsylvania.

A few words of warning regarding building the boxes. Use rough, unplaned wood. DO NOT USE FINISHED LUMBER. Use all galvanized nails, toe-nailed into boards to prevent drawing. Expose finished box to weather, or erect during winter months, but DO NOT STAIN, CREOSOTE, OR PAINT. Make covers tight to prevent leakage. BE SURE TO PROVIDE TWO OR THREE INCHES OF *SHAVINGS, PREFERABLY PINE, INSIDE BOX.*

This box, and the technique govering its erection, was perfected by Robert H. Johnson, Director, Division of Fisheries and Game, Massachusetts Department of Conservation. It does not differ much from ones previously devised and recommended by the U. S. Fish and Wildlife Service. Mr. Johnson found that the success of these boxes depended mainly upon *where they were erected.*

Formerly, these nesting boxes were attached to the trunks of stream bank trees about 10 to 15 feet from the ground. Only about 40% of them were used by ducks, due mainly to occupancy by raccoons, squirrels, mice, owls, and other birds. Various devices, such as spiked collar-like affairs, and metal facings were employed to reduce this interference but all proved unsatisfactory.

Mr. Johnson placed his boxes on cedar poles, 4" to 6" in diameter, or 2" iron pipe, driven firmly into marsh bottom so that they projected from 6 to 8 feet above water level. The

box was then placed on the pole or pipe, so that the top was from 5 to 6 feet above water line. The box was attached, at top and bottom, with a 50 or 60 penny spike, or it was wired with soft No. 9 wire to the pole. When a pipe was used, two U bolts attached the box.

Boxes are most easily placed in marshes, beaver dams, or the backwater of streams, during the winter months. Merely chop a hole in the ice, drive in the pole, and attach the box. This will eliminate the use of boats. The boxes naturally should be erected and ready for occupancy prior to the wood duck nesting period. The most important thing to remember is that the boxes should be placed so that, during the spring and summer months, THEY WILL BE ENTIRELY SURROUNDED BY WATER.

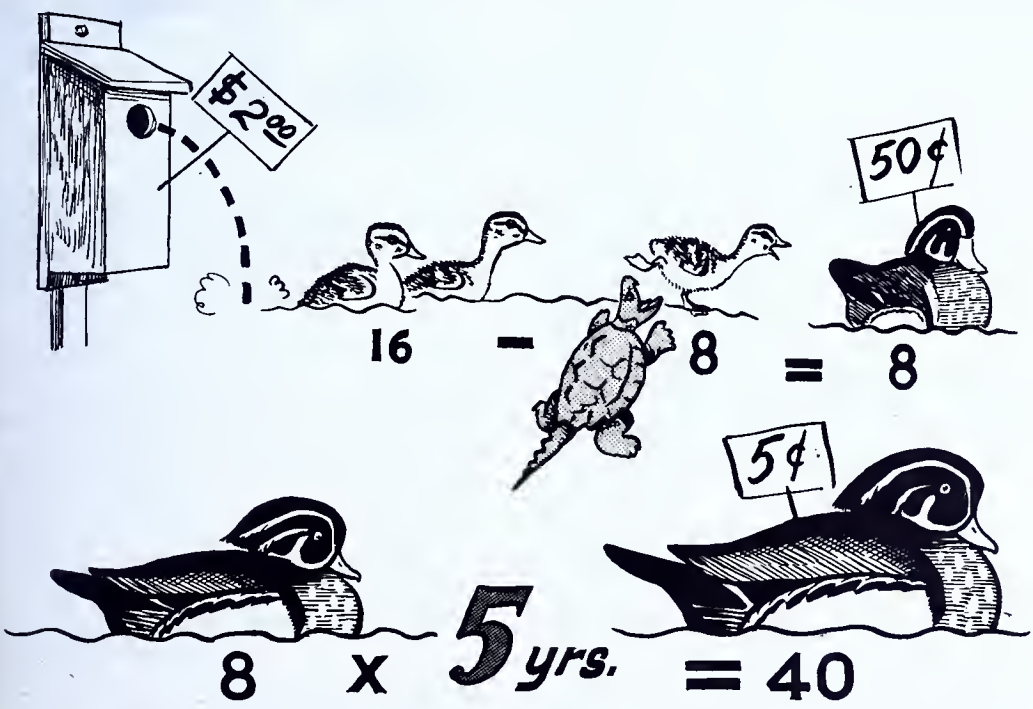
Beaver dams provide excellent nesting sites. If there are trees with no cavities already existing, that are entirely surrounded by water, boxes may be nailed to them.

When Massachusetts placed these boxes as described above they reported that 91% of them were occupied by wood ducks. So you can see that the selection of the proper site meant the difference between 40% and 91% success.

Before recommending that you, Mr. Sportsman, invest your money and time in this venture, the Pennsylvania Game Commission decided to see what would happen to 1,358 such boxes erected in all portions of Pennsylvania. Seven hundred were purchased with Pittman-Robertson funds (75% recoverable from the Federal Government).

Right now, we can tell you that Pennsylvania sportsmen have tougher odds to buck than your comrades in Massachusetts and other New England states. The highest degree of occupancy we found was 81% in one of our northern counties. In fact, Pennsylvania's "tote board" would look like this.

The low degree of success in the southern part of Pennsylvania is probably due to the fact that the banks of creeks and rivers there are amply lined with large cavity-filled trees. In our more recent cut-over

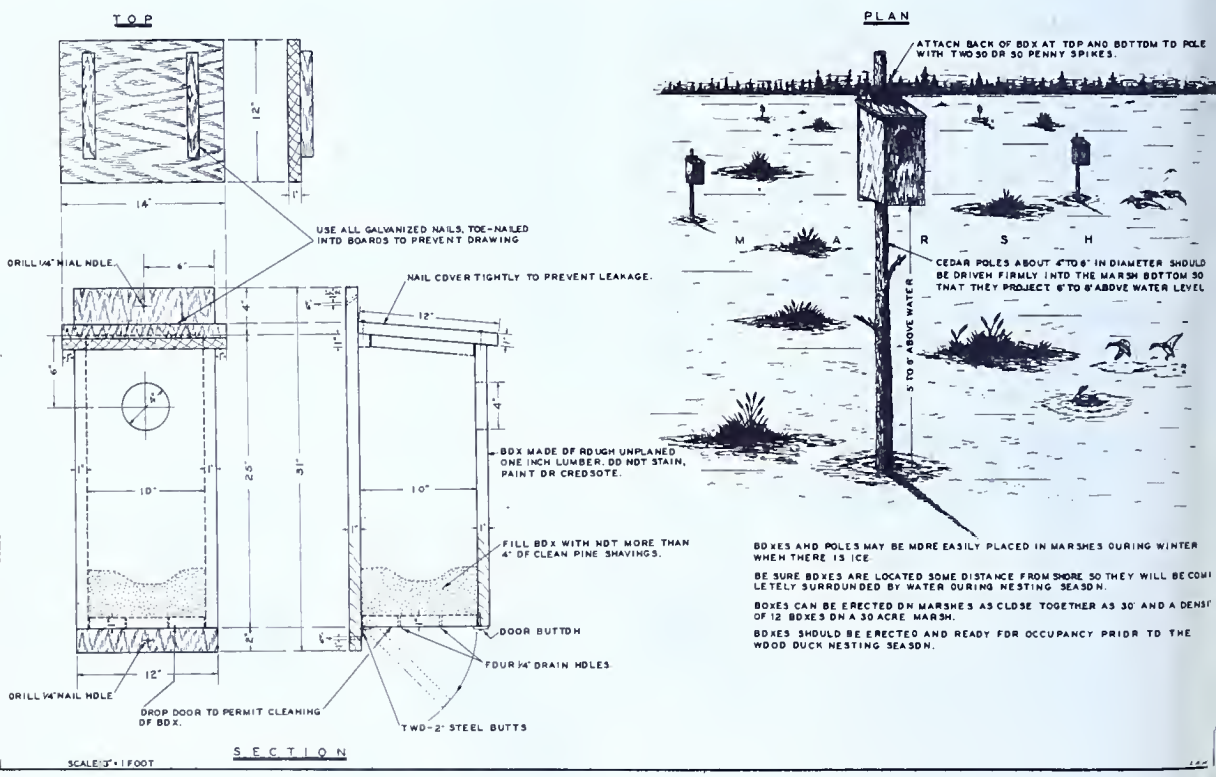


northern counties the pole stage timber provides few nesting cavities. It is in the beaver dams of this section that most of our nesting boxes were utilized by wood ducks. This fact should be very encouraging to you sportsmen of these northern counties because neither ringnecked pheasants nor bobwhite quail will thrive in most of your territory. So, why not increase the numbers of another game bird—the wood duck—in your grouse and turkey range? These ducks are native game birds, adapted to Pennsylvania, not strange birds which can be dumped by the hundreds into the county in which you may live and not provide you with one second of sport the following fall.

Good luck to your wood duck nesting box program, and remember the old adage "The Lord helps those who help themselves."

. . . *The End*

WOOD DUCK NESTING BOX





Weasels are Profitable

By L. J. KOPP

USUALLY there are two sides to a question. In this case however there is generally only one. There seems to be agreement that weasels are profitable only when they are tacked up on a stretching board. Trappers, hunters, farmers, and the Game Commission all agree that live weasels are not to be viewed with a kindly attitude.

It is a good thing that the weasel's fur is in strong demand by the fur industry. All this talk about weasels being profitable may not be such a happy thought for the fellow who may be obligated to shell out a few hundred dollars for a fur garment made from weasel pelts; however that is a story of a different nature.

The fact remains that weasel trapping can be profitable if one wants to go after them. There is little or no reason why a fellow should not try and do some weasel trapping. After all there is a one dollar bounty paid on weasels, plus the fur price. This ranges from one dollar up to as much as three dollars. Many persons may still be under the impression that weasel pelts are bringing the same old price of about twenty-five cents as they did in by-gone years.

Times have changed. Like most short-haired fur animals, the weasel is in exceptionally strong demand by the fur trade, and when you can figure your weasel pelts at from one dollar up to four dollars apiece, you can easily see that the time spent on a wintry weasel 'line can produce some nice cold cash.

During late December and through January and into February is the ideal time for weasel trapping. During this time the ground is usually frozen, and in general the weasel's source of food is reduced. Mice have claimed quarters in buildings. Field mice have crawled down below freezing level, and so the weasel is looking for food.

With the exception of the fox, the weasel is the only fur animal which is not stopped from moving about by deep snow or extreme cold weather. They keep right on going about their business.

The standard No. 1 jump trap is good for weasel trapping. However the No. one and one-half is just as good, and is preferred by some weasel trappers. At the same time the No. 0 trap, or No. 2 trap will catch weasels. In other words the size of the trap is not so important. The important thing is that your traps are in good working condition, and that they will spring easily. It is a good idea to take a feather and using some skunk oil, or even lard, oil the working parts of your traps so that they will perform with quick action. It is important to note here that you should not use old oil from a car, or kerosene, or similar oil, for oiling traps. To prevent traps from rusting they should be cooked in a solution of water and walnut hulls etc., and waxed.

Suitable weasel bait consists of such things as mice which you may catch around the barn or other buildings. Set a dozen or so mouse traps, and in this way you can secure good fresh weasel bait. Mice of average size may be cut in half, thus making

enough bait for two sets. A large bait is not necessary. Neither is it necessary to use bloody bait. Other baits such as chicken heads are also good, but are not always as easily obtained as mice. During cold weather it is best to dip your weasel bait in glycerine so that it will not freeze too solid. The idea is that a frozen bait will not give off any odor which could be detected by a weasel. Good weasel lure should be used in conjunction with your bait, for this will call a weasel from a greater distance when properly used.

No special trap sites need be prepared for weasel sets. Possibly the best weasel sets are made by setting traps in hollow logs. Such hollow logs can be found almost anywhere—along fence rows, small woodlands, or along the mountain.

When selecting a hollow log for a weasel set, there are a few things to be remembered. It is best to select a hollow log which is off the ground several inches, even as much as a foot. There are two reasons for being so specific in selecting your hollow log. First, such logs are dry inside. The advantage here is that your lure will last longer, than if placed in a wet log where it evaporates more readily. Lure placed in a dry place, or on a dry twig will last much longer, than if placed in a wet spot. Point number two is that logs which are off the ground will not be closed by snow as soon as one which is lying on the ground. In order not to confuse you, I would like to explain that what I have in mind are logs with an opening at only one end.

Logs which are hollow all the way through are certainly alright for weasel sets. The only difference is that in such logs you would need a trap at each end, or you would have to close one end. Thus you would have more work, or, on the other hand, if you would set a trap at both entrances, you would be setting two traps where one would be enough. In other words it would be better to set two traps in two different logs and thus cover more territory.

When setting weasel traps, the lure is placed in the log first. Pour a few drops back into the hollow log at least twelve inches or so. Next the bait is placed back in the log on the same spot where you dropped the lure. Do not place your lure on the bait. Now after the bait has been placed you are ready to set the trap.

Traps must be set very lightly so that the slightest pressure on the trap pan will spring them. It must be remembered that a weasel is a very light animal, and very quick in its movements. It is always best to set such traps so that the trap spring is facing back into the log. This goes for both long spring and jump traps. Traps set in this manner will catch more weasels, for they will not be knocked back by the upcoming trap spring. Weasel traps may be fastened to a branch drag, or stone, or may be fastened to a small nearby sapling. Weasels very seldom escape from a trap.

After the trap has been set, place a few more drops of weasel lure on the outside, on top of the log. This lure on the outside will be carried farther by the wind, and it is this outside lure which will call a weasel from long distances. The lure inside is to attract them inside the log where they will see the food.

There are several other methods of trapping the weasel. One of these is what might be termed a "box set." Such an outfit is simply a matter of nailing a wooden rat trap, or an official weasel trap which is similar to the standard wooden rat trap, inside an old wooden box. This box can be of any size, shape, or form. A two inch hole is drilled into one end for the weasel to enter. This hole must not be round, and it can be cut out with a circle saw, or an ordinary saw will do. There need be

no bottom to this box, just four sides and a top. The top can be nailed on with only one nail so that it can be pulled to one side, and pulled back in place again. Such traps should be nailed inside the box so that the trigger holding the bait is facing down, and it should be high enough so that the weasel will have to stand up on its hind legs in order to reach the bait. When using ordinary barn rat traps for this box set, it is a good idea to fasten the bait on the trigger with light wire so that a weasel will have to pull on it in an attempt to get it off. Many trappers feel that such traps are difficult to handle, since they are rather bulky to carry. On the other hand however, it is one trap which you can set wherever you think is a good place, and there is no need to hunt for a hollow log, or to prepare some other cubby type set. Such box sets as these are ideal when setting around farm buildings where cats, dogs, or chickens might be caught in common steel traps.

Another method used by some trappers is to nail such a wooden rat or weasel trap to a tree or fence post. Traps nailed to fence posts or trees should be about ten inches up from the ground, with the baited trigger facing down.

Why not put your spare time to good use and try weasel trapping?

. . . *The End*



Karl Maslowski Photo

The weasel preys on every living creature which he can catch and kill, and this includes pretty nearly everything from a turkey to a sparrow, and from a rabbit to a shrew.

Christmas Trees



By John F. Blair

A VERY large percentage of the 170,000 farms in Pennsylvania have certain areas that are too steep to farm. And some are really too steep for suitable pasture-land. When these areas can be kept in good sod, they are some benefit to the farmer. Often, however, when an attempt is made to farm these areas, washes start and carry away the topsoil, leaving dangerous and unsightly scars on the surface.

Some farmers, however, have figured out a way to get a cash crop from this land without farming it. How? Christmas trees!

Hundreds of thousands of Christmas trees are sold each year in Pennsylvania. Some folks like the larger trees ten or twelve years old while some like the "table" trees which are four or five years old. Most of the Christmas trees grown in western Pennsylvania are produced in Indiana County but these trees can be grown in most any county in the State. The shorter needle trees used to be more popular but of late the longer needle trees are gaining in popularity because the needles hang on better after the tree is cut. The most popular tree at present seems to be the red pine with the Scotch pine running a close second. Both have long needles and they hang on well after the tree is brought indoors. While many of these trees are grown in Pennsylvania, many are shipped in from the New England states and from the State of Washington.

Many commercial nurseries have small seedlings for sale at about $40 a thousand. They are usually shipped in bundles of 100 and if other, more important work prevents immediate planting, these seedlings may be heeled-in for a considerable time without damage. We feel that there are several advantages in ordering seedlings for fall delivery. They may be heeled-in in the garden and will usually make some root growth in the fall. To heel them in, a well-drained spot in the garden should be selected and a furrow six or eight inches deep dug or plowed on the level. The bundles should be opened and the seedlings should be spread along the furrow about a hundred to three feet. The roots should be well covered with earth and well tamped. If the weather turns dry, they should be watered often enough to keep the roots moist.

In early spring, after the danger of heavy freezing is past, the seedlings should be planted. By getting the trees in the fall a farmer is able to plant in late March or early April while he usually has a short breathing spell before spring plowing. Heeling them in the garden is an agreeable way of giving yourself a gentle kick in the pants about getting them planted, too. You want them out of the garden before you plow it. And, anyway, it is much more acceptable to give yourself a kick now and then than to have someone else do it.

The planting itself is not complicated. It can be done very rapidly by two men or husky boys. One uses a shovel or mattock while the other carries a ten quart bucket with a couple of inches of water in the bottom in which the seedlings are placed. One of the cardinal rules of planting is that the tiny root hair of the seedlings must not be allowed to dry out. They can dry very rapidly when exposed to the air. The shovel

or mattock is sunk six to eight inches into the ground and the handle is shoved over or down until a space is opened behind the blade. Into this space the seedling is placed until the lower branches are close to the ground. The tool is then removed and the earth firmly packed around the seedling with the feet. This packing is the second "must" in successful planting. It removes any air pockets from around the hair roots and don't spare the soles of your boots on this job. You can plant a thousand seedlings in this manner in a day's time.

We believe that an eight foot spacing in the rows with rows eight feet apart is very good. And you can keep down the first year's competition from weeds and grass by plowing furrows on the contour and planting the seedlings in the soil so exposed. About 650 seedlings spaced in this way are required per acre. It is necessary to fence any area planting to seedlings because stock allowed to graze the area will often break over or nip off the tender seedlings.

Two acres of rough land planted to Christmas trees each year would not make a farmer rich but certainly would give him a marketable crop. It is common to pay as high as $4.00 for a nice tree these days. And such a project might well be the means of putting that boy of yours through a School of Agriculture. Moreover, we believe that many farm boys are leaving the farm today because they were not given an active interest in some special farm activity when they were younger. Each boy and girl living on the farm should have a special project all their own, for which they are responsible and from which they derive the profits. Why not try Christmas trees this year?

. . . *The End*

The planting is not complicated and land used in Christmas tree production exemplifies wise conservation. Such a project might well provide the means for farm boys to seek higher education in agricultural colleges.





Another Sport Takes the Field

By GRACE O. BEACH

THE big noise is all over and most of the hunters have settled down to reminisce and dream of the next year. While this was taking place another sport slipped into its season quietly and unsung.

Trappers, like hunters, awaited their big day and when it arrived they slung their traps over their shoulders, picked up their equipment and headed into the wide open spaces in quest of furs for milady.

Furs are complimentary to women. Fashion designers are fully aware of that fact and make the most of it. By skillful handling they turn out glamorous apparel and wraps to drape the modern woman warmly and luxuriantly or frame the delicate features with the soft silken loveliness of prime furs.

Our cave sisters similarly attired in furs would be amazed, and so would we, if we could compare the garments of those long ago days with the new fur fashions of our time.

There is a story behind milady's furs. It is thousands of years long. Chapter after chapter is filled with adventure, romance, history, danger, hard work and big business.

Trapping had its beginning in primitive times. The cave man first caught the smaller animals by hand or killed them by hurling stones and wielding clubs. He developed a liking for meat and soon learned to use the pelts of animals for clothing.

As the need for more skins grew, man plotted to catch larger animals. Ingenuity developed the pit-fall. By digging a deep pit along the animal trails or near a water hole and camouflaging it with sticks, grass and leaves they found it was possible to entrap, and control and kill the largest and most ferocious animals.

This enterprise developed man's culture and he learned to put the skins of these animals to good use. He fashioned shelters, used them for bedding, made ropes and utensils from them. Many other articles were devised as time went on and they all made life more pleasant and comfortable. They came to be daily necessities in life.

As man grew in stature and culture, the demand for furs became greater and greater. Some of the more skillful at the art of trapping learned to swap their surplus for other necessities and finally for money. So trapping became one of man's first avocations.

As more ways were found to utilize this product of nature, the traffic in pelts increased and the search for furs spread throughout the world. History was written, empires built and expanded and vast fortunes were made on furs.

Trappers blazed trails across the American Continent in every direction and into every corner in search of furs. They endured privations, hardships, and great danger. In so doing these hardy pioneers probably made one of the greatest single contributions to the westward march of settlers.

Today, the annual fur crop in the United States is valued around $125,000,000 annually. It is estimated that about fifteen percent of this amount goes to the fur farmers and about the same amount to the farmers and farm boys, who jingle it in the pockets of

their jeans or use it to build up tidy bank accounts.

It means work for them in addition to their regular chores. It's no cinch to maintain trap lines, visit them regularly through all kinds of weather and skinning and preparation of the pelts. Only prime, well cared for skins bring top prices. But it's good sport and a healthful one that pays dividends.

Yes, trapping is big business. The demand for furs in the United States far exceeds the supply and we produce less than half the amount used. Imported foreign furs fill out the quota.

Pennsylvania ranks as one of the leading fur producing states. Hundreds of trappers throughout the Commonwealth are busy setting and tending their traps and caring for the pelts, rain or shine. Its great sport for them and they look forward to it just as eagerly as the hunter anticipates the chase.

While we usually associate furs with the ladies, the products manufactured from the furs of animals are not limited to them alone, but are enjoyed by men and women alike in many ways.

One thing is certain. Whether you're on the collecting end of the trap line or the purchasing end, there's money in them thar hides.

Red Fox





Gray Fox

Trapping For Hunting's Sake

So far we have touched only one angle of trapping, that of satisfying the demands of civilization for certain furs. There is another angle we read and hear a great deal about—predator control.

Hunters who want to perpetuate their sport, and those charged with the management and conservation for wildlife resources, are concerned with trapping for control.

The inexhorable law of the jungle "kill to eat" is just the same today as it was in the prehistoric days. It weaves its thread through the pattern of nature just as surely now as it did then. An empty stomach must be satisfied and wildlife creatures, like humans, seek to satisfy their needs.

The blacksnake preys on small rodents, birds and eggs; the songbirds on insects; the robin and woodcock on worms; even the lowly worm, burrowing and tunneling its way through the earth, absorbs microscopic forms in its life cycle.

This destruction of life is regarded as very beneficial to man's existence. While it definitely falls into the class of predation, it is not considered in that term generally.

The term predator has come to be known and applied almost exclusively to the birds and animals that prey upon the wildlife creatures we wish

to preserve for the sport of hunting and the delicious food they supply for our tables.

The most common in this state are those which make the greatest inroads on the game crop—the fox, raccoon, opossum and skunk in the mammal class. The birds of prey are the crow, and certain species of hawks and owls.

While the four common mammal predators are fur-bearers, the value on their skins and the demand for them is not great, so they are not as eagerly sought as the skins of the more valuable animals. That is in a great measure due to the dictates of fashion.

If for instance the demand of fashion swung to red foxes, more trappers would seek them out and the stock now so numerous would be cut considerably. Then the pendulum would swing the other way and it would be necessary to regulate the number taken in order to preserve the species. With little or no demand their numbers increase greatly and they overpopulate their normal range and trouble ensues.

Every animal and bird has its rightful place in the scheme of things. Each in its place contributes something in the plan of nature. While we strive to preserve all species of wildlife, by the same token we must strive to keep them in control for the common good.



Wildcat



Raccoon

Coon Is Good Eatin'

A young raccoon makes the best eating and you can tell a young one by its teeth. Teeth in young animals are sharp and all there. Here's one way to fix a coon for the table. Wash the dressed animal well and cut it up in medium sized pieces. Trim away fat and be sure to remove the small "kernels" you'll find under both front legs and in the small part of the back and on each side. Mix together 2 cupfuls of full strength vinegar, 1 cupful of water and 2 cupfuls of claret wine; a good sized apple cut in pieces, a tablespoon of salt, 10 whole cloves, 1 teaspoonful of pepper, half a teaspoonful of mustard seed and 5 bay leaves. Place pieces of meat in this mixture and leave stand 48 hours in a cool place. Turn the meat in the solution several times.

Remove the meat, drain and dredge with flour. Fry in hot fat until well browned on all sides. Place in roaster or Dutch oven and add one sliced onion over top of meat and two cupfuls of the strained liquid in which the meat was soaked. Bake or simmer slowly until tender. Add more liquid if necessary. When finished place meat on hot platter and serve with a salad and sweet potatoes. Thicken the gravy in the usual manner.

. . . The End

Telescope Sights--Yes or No?

By Ed Shearer

FROM the number of inquiries this corner has received lately, it is apparent that the telescope sight is beginning to catch on in the hinterlands. This is a natural trend that has been a little slow in coming. However, mass production, keen competition and modern advertising was sure to produce results sooner or later. Not that the metallic sight manufacturer is in any grave danger of going out of business. Far from that. But you can be sure that the telescope sight in the deer woods will no longer be a novelty, even if it does remain in the minority.

The one factor that held back the scope sight was the matter of price. Mister Average Man, after laying a good sum on the line for his rifle, just couldn't see paying that much or more for a scope sight on the off chance of taking a buck with it. Especially so when he could buy the best part of a steer for the same price. Today, however, you can buy a satisfactory and serviceable hunting scope for about the same price that a dinner and evening out would set you back.

The variety of scopes and mounts gives today's hunter a choice of combinations suitable for any use. From shooting mice in the kitchen to whacking down a bighorn sheep, the modern scope is nearly fool proof. Properly mounted and adjusted, it will take a surprising amount of abuse.

Contrast this with the old target scopes and adjustments that could and did go wrong right in the middle of a hot string. Or the early hunting scopes with their high mounts that made you crane your neck like a country boy at his first fair. These giraffe-like arrangements have given away to the modern, low, streamlined, mounted scope that stays put under all ordinary hunting conditions. The optics and field of view have also been greatly improved.

Questions most frequently asked are: How much better are the scope sights than the metallic sights for the Pennsylvania deer hunter? How far can I kill a deer with a scope sight? Well, after years of experimenting with guns and sights under all conditions and reading the extravagant claims made by some of their overenthusiastic supporters, I've learned to be a bit skeptical. I believe the main difference lies in the eyesight of the hunter using them at the average range at which our deer are shot. But let's turn to my notebook for some actual shooting records and see how the facts shape up.

In 1926 I was engaged in competitive shooting which combined both metallic and scope matches. I shot 100 shots with each type to determine my personal difference. All shooting was done on the 100 yard NRA target with a two-inch bull. Two strings of 10 each were shot per day. A Winchester 52 rifle with aperture sights and a 12.5 power Fecker scope was used. Shooting was done from the standard prone position. At the conclusion the average added up as follows: Metallic sights—98.8%; scope sights—99.4%. I might add that the



shooting was done on an outdoor range under average good summer conditions. The difference amounted to .06%.

On the other hand, a friend who was much older and whose eyes had lost their keenness averaged about 98 percent with a scope sight and dropped back to a 90 average with metallic sights.

Now let's move to the hunting field and see how things work out. Here a hundred kills on deer averaged out at a range of 66 carefully measured paces. And contrary to the tales you hear, most deer are shot when they are either standing or walking. They may be running when they go down but they usually catch the bullet that gets them while they are moving slowly if at all. Now do you think those deer could have been killed any deader or any easier with a scope sight? If so, by all means get one.

Another case involved a very fine Niedner custom-built 270 caliber with a 2.5 power Zeiss scope with Griffen & Howe mount. It was built for a bear hunting friend of mine who liked to sit on high points and watch the surrounding country. For this purpose it could not be beat. After two days of deer hunting in my country where the cover is thick I regretfully left it in the gun rack and took the old model 95 Winchester carbine with V-M gold rimmed aperture front and receiver rear with an aperature big enough to throw a cat through.

The modern hunting scope with a 30 foot field or more at 100 yards is relatively fast. But the statement that they are as fast at close ranges as properly designed metallic sights used with both eyes open is pure applesauce. When the exhibition shooters start using them, you can take some stock in those statements.

Summing up the question of how much better are scope sights than metallic sights, my answer would be: Given normal eyesight, the advantage under average conditions on deer up to 100 yards would be questionable. From 150 yards the gap begins to widen and from 200 yards up scope sights are definitely tops. Thus it would be logical that, if a fair part of your shooting is going to be done at 150 yards or more, it wouldn't be a bad idea to do a little high finance with the family budget and get yourself a scope. Also, if your eyesight is not up to par and your sights grow fuzzy, then it's definitely a scope sight for you at any range.

The second question, "How far can I kill a deer with a scope sight?," can be answered this way: If the rifle is up to it, you can "kill 'em as far as you can hit 'em." Some hunters however, have the idea that a scope sight automatically makes a marksman. This is slightly erroneous. If you can't hit a deer at 100 yards with metallic sights, the chances are you will also miss him with a scope. But if you can hit a six inch mark at 100 yards, you would likely kill a standing deer at 175 yards or more with scope sights, providing your rifle is equal to it. The object of any sight is to allow you to align your gun accurately on the mark. The rest is up to you. A point to remember, is that, although scopes give a better definition of the target, your nerve movements are magnified by the number of times equal to the power of your scope. Thus, although you see the mark clearer, scope sights are harder to hold on it.

The chief weaknesses of the hunting scope stemmed from water leaks, fogging, or rain and snow. Most modern scopes are now waterproofed and some are filled with a gas to prevent fogging. None, however, have appeared with windshield wipers yet so rain and snow still remain a hazard.

Now regardless of the number of scopes and mounts you look over, choosing the winner is not a matter of personal opinion. It will depend

on the type of rifle you shoot, the ammunition you will fire, what you are going to hunt, and the conditions you will hunt under. Let's deal briefly with a few types.

Big game hunting scopes come in two classes. In our eastern woods where we have many dark days and the range is seldom over 250 yards, the 2.5 power scope seems the best bet. It has the greatest luminosity or light gathering power. It is much easier to hold on those off-hand shots. Four power scopes are coming into more use in the eastern woods but they are usually a compromise to be used for dual purposes. A good scope in this class starts with the Weaver J-2 at $22.50 and up.

Scopes used for varmint shooting should have a minimum of six power and may go up to 15 or 25 power. Here field of view and luminosity are not so important. The shooting is deliberate from a solid shooting position, usually prone. But the mark is small and the range is generally long. In this class are the six power hunting scopes costing around $60 with target scopes from $80 up.

Competitive target shooting is a highly specialized game calling for the utmost in precision equipment. The power runs high, from 10 to 25 power. If this is your dish, you might as well figure on a $100 bill at least. Nothing but the best will get you a look in this class. The Lyman Targetspot with the big objective lens is one example of this class.

Now I realize that this has been a somewhat general discussion of scope sights but it is intended solely to give the newcomer some idea of the subject. If the readers of this column would like a more detailed article, write in and one will be forthcoming in a future issue.

. . . *The End*

NEW AMMUNITION HANDBOOK AVAILABLE

Reissued for the first time since before World War II, in more than twice its former size, publication of a new edition of the much sought after Winchester Ammunition Handbook has just been announced.

Completely new, the 1950 edition is a guide to the use of Winchester sporting ammunition and firearms and contains 112 pages of information helpful to shooters and hunters. Free on request to Department No. 2 at the Winchester Repeating Arms Company division of Olin Industries, Inc., New Haven, Conn., the Handbook is said to contain as much useful information as is usually found in expensive gun books.

Among the many new features is a new Range Table for all Winchester center fire cartridges, a Table of Wind Allowances, and a table of cartridges interchangeable and adapted to the same gun.

For the first time, various aspects of bullets and shotshell performance are explained with many of the famous super high-speed photographs made in the Winchester Research and Development laboratories at speeds of 3/1,000,000ths of a second.

Besides ballistic tables and ammunition recommended for all types of shooting with shotshell, rim fire and center fire ammunition, the Handbook also explains in simple language the mysteries of shot string, barrel length, pattern, powder, velocity, trajectory, killing power, the range of bullet types and their particular uses, and a host of other subjects.

In addition, the Handbook pictures ammunition and firearms and explains the differences between various types of rifles and a host of other subjects necessary to hunters and shooters.



By HERBERT KENDRICK

Here and There

IN MICHIGAN during October the weather was beautiful for anything except hunting because the temperature ranged from 80° to 90° during our entire stay in that picturesque country where game continues to be reasonably plentiful.

M. S. Charlton of the Campbell-Ewald Company, Detroit, who always hunts with me in Michigan, brought along a wonderful little pointer bitch that really knew her grouse. Despite the warm weather and dry leaves "Queen" made many perfect and intense points that make any hunting trip a magnificent success. Her range was conservative and her movements as quiet as I have ever known. The affectionate creature located her birds, handled them to perfection, and it was a great thrill to shoot over her accurate and productive points.

My prize dog "Jim," perhaps better known as Hall's Nurocket, died of a tumor, soon after he was shipped to the Wolverine state for our annual grouse gunning trip out there. He was eleven years of age, hunted many states, won numerous grouse trials, and wormed his wonderous way into the heart of every sportsman who knew him. The old boy's life was successful and extremely fruitful yet it breaks a hunter's heart to see him go to join the spiritual ranks of the greats of the past, so, so long Ol' Pal!

In Carolina for our annual Thanksgiving quail hunts it was a rare pleasure to see William Harry Entwistle's dogs work again. Five straight years make a feller feel close to those pointers and setters in the grass fields and pinelands of a great little game state.

Wherever gunners gather you hear many many hunting stories and Carolina is no exception. While barbecuing chickens over a hickory fire Judge Don Phillips of Rockingham related a story of an unusual performance of his setter dog "Doc." I have known Don and Doc since '45 when Seth Gordon took me with him for the North Carolina Wildlife Federation meeting, and during the years I have always found them both reliable in every way. Here's the story: Don and Minor Hinson were shooting singles in a rough swampy thicket when a twig hit Don's horn rimmed glasses knocking them to the ground. He was too busy lining up a single quail to notice the absence of his spectacles; however, when the excitement subsided he missed his seeing appendages and an intense search was begun. Quite some time passed when Don came upon his faithful setter who was standing with his nose downward and his tail wagging. Under his nose lay the glasses half covered with mud and water.

During many years of shooting over good dogs it has been my pleasure to see many evidences of their using real thinking brain power, so it is no great surprise to me to hear of a dog locating a personal object of his master.

When a dog becomes lost in the woods and his master is forced to leave, he may lay his hunting coat on the ground where the hunt began, and chances are excellent that the lost animal will return and remain on the coat until his master comes for him. A dog's nose is powerful, and so is his love for his handler.



PGC Photo by Batcheler

Sam Light, Punxsutawney, an internationally known figure in grouse dog breeding, training and field trials. Mr. Light owns the famous 13 year old champion, "Sam L's Skyrocket."

Ol' Doc is near ten years of age now, has slowed very little, still maintains beautiful styles, his bird finding and handling ability has increased with his years of experience.

Will Johns, our editor, invited me to hunt grouse with him on one of the State Game Lands, and I shall always remember his killing his first grouse. Will has been so busy with service to Pennsylvania hunters he has very little time to enjoy the sport himself; however, on his holiday we found a few birds and Will made a beautiful shot on an exceptionally large bird decorated with a red ruff. Those birds come few and far between, so Will picked a prize for his first. The scene surely brought back a wonderful memory of my first, back in the West Virginia hills many years ago.

The four German shorthaired pointers owned by Roy Anders of Perkasie, Pa., surely looked impressive in the photograph on page 53 of the November issue of the GAME NEWS.

James H. Martin of Bluefield, West Virginia, has lost his superlative grouse dog, "Brownie." The lovable Irish setter died before the season opened, and his death was a great loss to me since I have hunted over him each season for the past eight or nine years. Brownie was truly great as a woods dog and a gunning pal to his master. I shall miss the old gentleman when I make the annual trip down there to close the season with Jim. We shall hunt over Gypsy, the little Irish setter bitch Jim has been training for several seasons. I sincerely hope she will develop into as great a dog as Brownie, for Jim's sake, because he is one of the most noble sportsmen with whom I have ever hunted.

It is always a successful hunting season when one has seen excellent dog work, made new gunning friends, renewel contact with others, and experienced new lands where game abounds. The size of the season's bag falls very low on the list of the extreme pleasures derived from the fine art of bird hunting.

It is my sincere wish that you all have had a great year with your dogs in the field, and the new year will be the greatest you have ever known.



Natural Elements Influence 1950 Deer Hunting

On the week-end prior to the November 27-28 antlerless deer season, serious obstacles to travel varied in different sections of Pennsylvania, but any one of them was sufficient to cool the ardor of the most determined hunter.

Floods, snow-clogged or washed-out roads, highways obstructed by broken-down, ice laden trees, utility poles and wires, and travel routes strewn with debris following winds of tornado velocity caused thousands of would-be doe seekers to remain at home.

On Pennsylvania highways and in towns that normally would have been crowded with deer hunters the Saturday and Sunday prior to the season, red-clad figures were conspicuous by their scarcity.

It is certain that curtailment in hunting man hours brought about by the freakish weather will result in a much smaller antlerless deer kill this year than was anticipated.

Final figures on the "doe season" will not be available until big game report cards bearing information on individual kills have been submitted and tabulated, but accounts from the principal deer areas at the close of the 1950 two-day antlerless season give foundation to these general observations.

Over the state, hunting pressure was much lighter than in 1949, being 75% to 90% less in the western and some northcentral counties, due largely to deep snow that prevented travel.

In the southcentral and eastern counties, roads were generally treacherous, but 2 to 8 inches of snow there aided rather than interfered with hunter activities. In these sections alone, the bag of antlerless deer more nearly agreed with the kill forecast before the storms.

In the northeastern part of the Commonwealth, two hunters were shot "in mistake for deer." Early figures show 17 hunters wounded by gunfire in the State during the antlerless season.

Federal Funds Allotted for Wildlife Restoration

The U. S. Fish and Wildlife Service recently announced that the Pennsylvania Game Commission has been allotted $354,000 of Federal aid for use on wildlife restoration projects over the Commonwealth in the 1950-51 period under provisions of the Pittman-Robertson Act. It is interesting to note that Pennsylvania's 1950-51 share of Pittman-Robertson funds decreased about 18% below that for 1949-1950, when the amount received was $431,000.

These monies, derived from a tax on firearms and ammunition purchased, are apportioned on the basis of a state's area and the number of licenses sold by it the preceding year. Since only one license is required to hunt all wildlife that may be legally taken in Pennsylvania, the Keystone State receives less federal aid than do other states that sell separate small game, large game and special hunting licenses even though their hunting population may be less than Pennsylvania's.

Maine's Deer Are Growing Bigger

Maine's sportsmen sometimes smile knowingly when they hear the cries of anguish uttered by fellow sportsmen in other states where conservation officials have been trying to relax the buck law, the Wildlife Management Institute reports. No one ever sold them on the buck law and they seem content to continue harvesting does as well as bucks year in and year out.

If sportsmen from the buck-law states tell them they are exterminating their deer, they have some fairly convincing arguments on the other side. For the last three years, the annual bag of deer has averaged over 35,000 in a state little more than half the size of Wisconsin. Twenty-five years ago only 8,379 deer were taken. The herd has increased and is still increasing in spite of the lack of special protection for does. In 1925, a two-hundred-pound deer was a rarity; last year weighing stations operated by the State Fish and Game Commission checked through 837 whitetails weighing over 200 pounds and 55 that tipped the scales past the 300 mark. Not many of the buck-law states are producing deer of that size today. Records from official weighing stations in states where buck laws have been carried on the statute books too long indicate that bucks in some places are decreasing in size, antler development, and reproductive vigor.

Stolen

A 15 inch beagle, black, white and tan markings, five years old. Dog was stolen night of October 11, 1950 from John Gilliland of Warriors Mark, Pa. Any and all information on the whereabouts of this dog should be addressed to Mr. Gilliland.



Winter occasionally displays some freaks of nature in addition to its normal cold and hardships. Shown here are tail feathers of ringneck pheasants, wintering on the Commission's Loyalsock Game Farm, embedded in balls of ice. The ice balls formed on the birds during a recent wet snow, measured eight inches in diameter, and weighed three pounds. Such occurrences have been previously reported with wild turkeys but this is the first time such "accidents" have been noted with pheasants on the game farm. Quick work by farm attendants prevented injury to the birds.



Pigeon Creek Sportsmen's Association

The Pigeon Creek Sportsmen's Association of Cokeburg in Washington County will hold their 8th Annual Fox Hunt on Sunday, January 21st. The same rules and regulations as have been in effect in the past will prevail for this hunt. Refreshments will be served. Hunters who wish to attend the hunt and have not already done so, are urged to notify the Association Secretary, G. R. Young, Cokeburg, at least a week prior to the date of the hunt.

Northampton County Federation

The Northampton County Federation is promoting a predator control contest with $100 in prizes. The contest will run until June 30, 1951 with scoring as follows: Crows, 1 point; foxes, 16; weasels, 4; sharp-shinned hawks, 20; goshawks, 20; Cooper's hawks, 20; great horned owls, 20; and water snakes, 1. Secretaries of each club record and certify kills for their club members. The Federation is urging members not to shoot protected hawks.

Tedyuscung Sportsmen's Association

The Tedyuscung Sportsmen's Association of Philadelphia has suggested a series of championship matches in the Philadelphia area to their county unit. The matches would involve trap and rifle events, casting tournaments, and other outdoor contests so that definite Philadelphia championship individuals and teams could be selected to represent the district in intra-county matches.

The Association has again requested this column to announce its desire to exchange their "Tomahawk," official monthly publication, with other clubs. Club secretaries are urged to write J. Frank Wenger, Chairman of the Publicity Committee, Tedyuscung Sportsmen's Association, Roxborough, Philadelphia 28.

York Chapter IWLA

A fine attendance of 125 Waltonians, families and friends marked the introduction of "Church Night" held Sunday, September 24th by the York Chapter. The response to this new chapter activity has led the "Ikes" to believe it will become a regular fall feature on their program.

Federation News

The Federation News, published by the Pennsylvania Federation of Sportsmen's Clubs, was raised in status to that of official house organ for the State's organized sportsmen at the October convention in Harrisburg. Editor Charles H. Nehf reported that both the revenue from advertising and circulation had increased. Three hundred and ninety clubs throughout the State are now receiving the bulletin as well as additional thousands of individuals.

Montgomery County Federation

Approximately 1700 blight-proof Asiatic chestnut seedlings were distributed by District Forester Wilford P. Moll and Federation Forestry Chairman Ray Landes at the regular quarterly meeting of the Montgomery County Federation in October. Club delegates took the seedlings back to various clubs for planting throughout the county in a major effort to improve wildlife food and cover conditions.



What To Do With Does

Dear Sir:

Having seen the final ruling on the deer season, I am blowing off steam. What the result will be, I can't say.

In the first place I think very emphatically that the Game Commission should be allowed to run the show. Otherwise, what is the use of having one? Since 14 counties banned the doe season, I think the residents of those counties should be barred from shooting anterless deer in any other counties that are open to antlerless deer hunting, particularly all whose names appear on the petitions. I think anyone who signed the petition against the antlerless season and is caught shooting or attempting to shoot an antlerless deer any place in the State should have to pay the $100 fine just the same as the violators at any other time.

It is my opinion, based on reports from several counties and off-season conversations with a lot of sportsmen who oppose doe seasons, that from 75 to 95 percent of the fellows who oppose killing does in their particular camp or hunting district will go to some other place, shoot a fawn and then swear about the Commission opening the season on antlerless deer. I contend that the Game Commission is set up to take care of the situation and I say, let them do it or quit. If it isn't done by them, old Mother Nature will step in and do a thorough job of it.

I don't want deer or any other species destroyed. I enjoy being in the woods, was raised in the mountains, and get a real thrill of getting back to them, especially during the big game season. I want my sons and grandsons to enjoy the same privileges in the years to come. It is time to forget a lot of pet ideas based on heresay arguments and let the Commission use the proven scientific facts to get all species of game on a progressive and sustained increase that can be held on a yearly basis.

Yours truly,
Richard Huskin
Grove City, Pa.

———

Dear Sir:

I've read the issue of GAME NEWS on the deer problem. As a hunter of deer in this State, I agree a hundred percent that the herd should be reduced to give better hunting and save deer from starvation. Everybody has his opinion or ideas on subjects so I'm writing about mine to see if I have a better way of solving the problem.

Here is my opinion: As a member of a deer camp and a sportsman who loves to shoot bucks, I believe there are thousands of hunters who disagree with the shooting of does the two opening days. There are a large number of camps who will not shoot the does but will wait and try to shoot bucks. If every hunter is allowed to shoot a deer this year as planned, I believe it will be harder on the bucks. A lot of land is being filled with no trespassing signs. My idea of helping to reduce the herd and help kill the does is to change the buck to a ratio with does. Why not change the season to be five does and five bucks to a camp, or four to four, so that if a camp can't shoot so many bucks, they'll have to shoot does. This will help kill more does.

Yours truly,
Milton Fenninger,
Ephrata, Pa.

Good Conservation Education

Dear Sir:

Our principal, Mr. Scott Lackey, asked me to reply to your recent letter concerning conservation education in our school.

Last spring the Johnstown Sportsmen's Association agreed to pay the expenses of sending a tenth grade boy to the Junior Conservation Camp until each of our three junior high schools had sent a boy. The boy trainee would be expected to help organize a conservation club in his junior high school during his tenth year and it would be continued for two years in the senior high school. (In Johnstown the junior high schools include grades 7 to 10 with grades 11 and 12 in one senior high school.)

Mr. Clair Younkin of the senior high school and I, as members of the Johnstown Sportsmen's Association and the faculty of the Johnstown schools, were appointed to present the matter to the school authorities. The Superintendent of Schools, the Supervisor of Secondary Education, and the principals of the high schools approved the plan we presented to them. The Johnstown Sportsmen's Association further agreed that if we could show a worthwhile program in the schools at the end of three years, they would continue to pay the expenses of a trainee at the Junior Conservation Camp.

Last May we selected a boy, Forrest Barnhart, from Joseph Johns Junior High School and he attended the training camp during the first camping period. We now have a club of about 20 tenth grade boys which meets on Monday mornings during the first period. This is the period each week set aside in our school for special activities. While this eliminates some boys who would like to belong to the club but are scheduled for chorus, orchestra or other clubs, after-school meetings have not proven successful. Many of the boys have jobs and those from Seward and New Florence go home early by school bus.

I have been acting as sponsor for the club in our school. While I have no particular training in club leadership, I teach science and nature study, subjects which are closely related to an outdoor program. We have planned our meetings so far around subjects that are seasonal. For example, at our October 30th meeting some of the boys discussed bag limits for the small game season, changes in the game laws since last season, the ten commandants of safety, and what procedure to follow to be excused from classes on November 1. I took along my shotgun and demonstrated the proper handling of firearms.

Our club will be the nucleus for a larger group of boys in the senior high school next year and we are anxious to get a good start.

Sincerely yours,
Ralph V. Mostoller,
Club Sponsor.

———

Cry Fox

Dear Sir:

I believe that the article by J. M. Phillips in the October issue is the most sensible article I have ever read in any magazine. The cry of "Fox, Fox, Fox" is all one hears. I believe that any one of the four predators mentioned by Mr. Phillips is by far worse than the fox. I work in the woods for a lumber company and see hundreds of chipmunks. About all I can see these little fellows are good for is to eat up game food so I don't think it would hurt to have a few foxes. I think they feed more on chipmunks and field mice than they do on rabbits and grouse.

Sincerely,
Stanley Barton,
De Young, Pa.

HOW TO WIN FIELD TRIALS

By Horace Lytle, in which the author gives of his many years of experience in all parts of the country. D. Van Nostrand Co., Inc., New York. Price $3.75.

The author is one of the better known dog men of the country, as a field trial judge, a handler of dogs and as an author and magazine writer on the subject. In this volume, he sets forth the theory that field trials are the proving ground of the sires and dams of our future hunting dogs.

He stoutly declares that dogs that are unable to stand competition in the field, do not have the stamina to keep ahead of competitors, or do not have the nose and bird sense needed to find covies in the open competition of a field trial, are soon dropped from the stud lists.

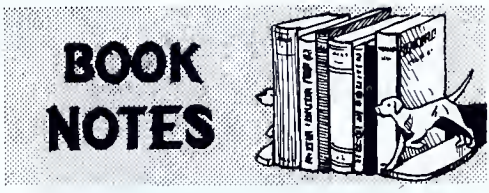
Then to illsutrate his point, he takes as an example the career of a great national champion, tracing its life from its first handling to its ultimate triumph in the field. He is one of the few men in America having the knowledge and experience to tackle such a job of writing.

As is usual with all of the author's books, he manages to entertain as he instructs, so you will find this volume well worthy of reading even if you do not happen to have a pup ready to start its climb up the ladder to success in field trial competition. Should you be fortunate enough to own such a youngster, you simply cannot afford to sidestep this opportunity for help from a man who really knows the secrets of the proper handling of a gun dog in the field trials of the country.



LOST

This fine pointer dog was lost on November 13 near Port Allegany in McKean County. The 4½ year old dog is white with liver colored markings and has an unusual ticking resembling the letters "D.A.C." Please forward any information on the whereabouts of this dog to D. A. Campbell, 15 Cumberland Road, Lemoyne, Pa.



ADVANCED BAIT CASTING

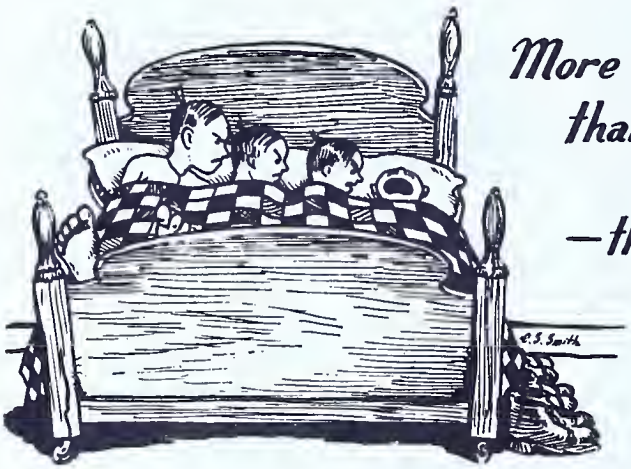
By Charles K. Fox

204 xii pages. Illustrated with numerous black-and-white drawings by Fred Everett. Published by G. P. Putnam's Sons, 2 West 45th Street, New York City 19, New York. Price $3.75

There have been many books written for the beginning fisherman, but here is one written specifically for the experienced angler, particularly for the man who is interested in the absorbing sport of taking fish on the short rod and plug. Although the dry-fly purist sometimes is prone to look down his nose at the plug-caster, Fox maintains that as much skill is required to hook and land a good fish on the casting rod as it is to take one on the flyrod. And if tackle is matched properly to the fighting ability of fish being taken, the fish has as much chance of escape as it has when the angler is armed with an eight-foot rod and a number 10 fly. Fox is an advocate of the lightest possible tackle consistent with efficiency. His own favorite gear consists of a six-and-a-half foot rod capable of throwing plugs little heavier than bass bugs.

In this book, the author covers many situations which frequently bother experienced fishermen and which often have been neglected or passed over lightly by other writers. There is a whole chapter on night fishing, another on the location of fish feeding and resting grounds, and chapters on how to take bass during summer, fall, and early in the season. Almost one-half of the book is devoted to the selection of suitable tackle and equipment, there is a good section on the history of bait casting, and a full chapter devoted to the conservation of fish in relation to land use.

According to experiments conducted by a Columbia University professor, the ten top-ranking animals, in the order of their respective intelligence are: chimpanzee, orangutan, gorilla, monkey, dog, cat, raccoon, elephant, pig and horse.



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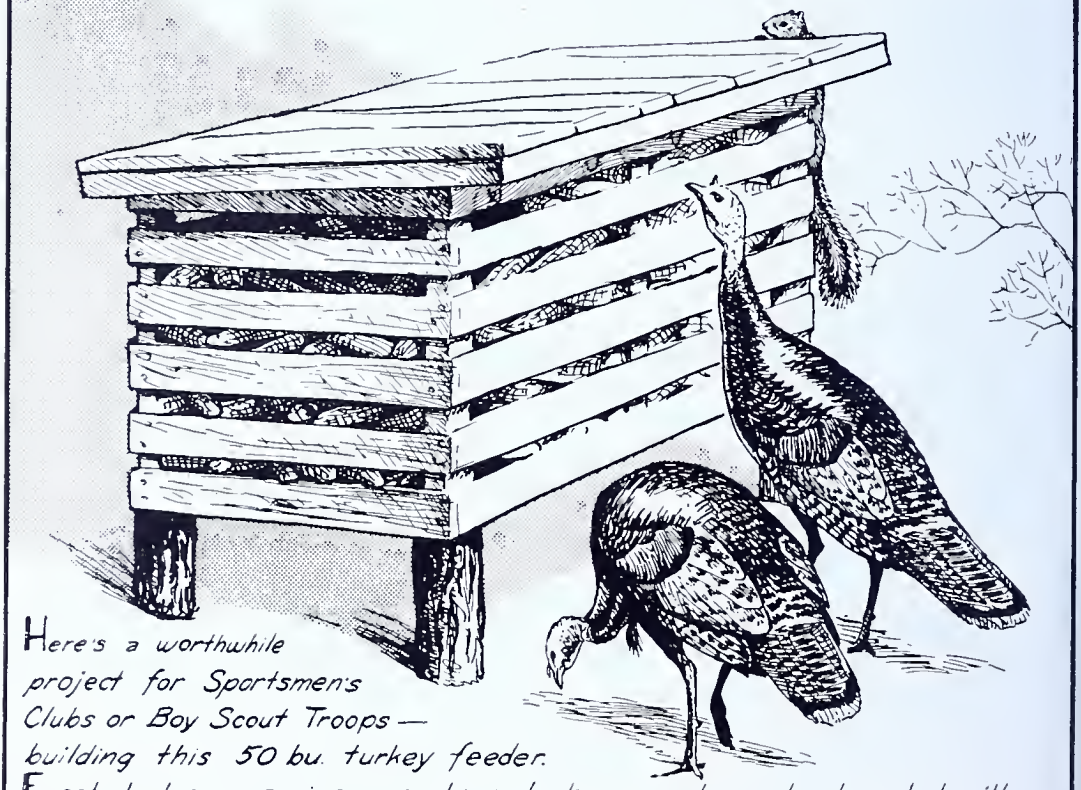
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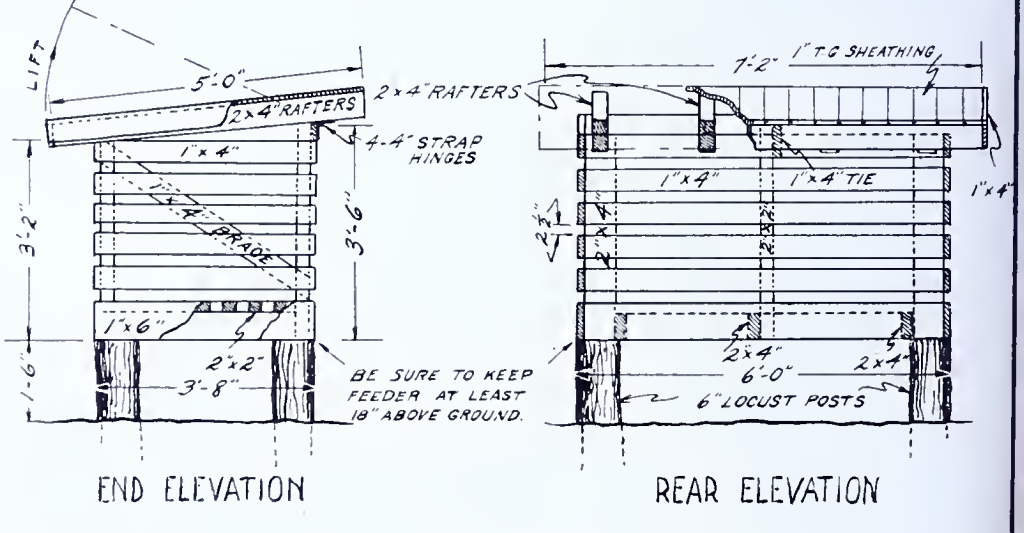
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"CORN ON THE COB"

TURKEY FEEDER



Here's a worthwhile project for Sportsmen's Clubs or Boy Scout Troops — building this 50 bu. turkey feeder. Erected along a spring run where turkeys customarily travel it will fill their needs when natural food is hard to find. Below are all the specifications you will need.



END ELEVATION

REAR ELEVATION

Squirrels will go for this in a big way, too!

PENNSYLVANIA

Game News



P38.34
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RUARY 1951

10 CENTS



THE STORY BEHIND THE COVER

If the story of Pennsylvania's wildlife conservation in the last quarter century could be told by the deeds and actions of any one man, that story would center around Ross L. Leffler of Pittsburgh. Last month Mr. Leffler completed his 23rd year as a member of the Pennsylvania Game Commission, 15 of them as its president.

Through the years President Leffler has devoted untold time, energy and ability to the cause of wildlife conservation in the Keystone State. Today the status of the Commission which he has so skillfully guided for almost a quarter century stands as testimony to his outstanding ability and devotion to public service.

Born in Butte, Montana in 1886, Ross L. Leffler early developed a deep interest in conservation and civic affairs. His achievements and accomplishments in a long list of services to his fellow citizens, his state and his nation have earned him international acclaim. Mr. Leffler organized and was president of the first chapter of the Izaac Walton League in Pennsylvania and is a former national director of the League. He served as president of the International Association of Game, Fish and Conservation Commissioners in 1933 and was chairman of the 17th American Game Conference (now called the North American Wildlife Conference). He helped organize the Federation of Sportsmen's Clubs of Pennsylvania, Western Division, and served as its first secretary.

Appointed as a member of the Game Commission in 1927, he was elected president in 1928. He resigned as a Commissioner on December 23, 1931 and served as the Commission's Executive Director for six weeks without pay. In 1935 he was reappointed to the Commission, was elected its vice-president in 1937 and was re-elected president in 1940. He was instrumental in the establishment of the Commission's training school near Brockway now named in his honor and he has had a deep interest in this magazine since it was first published in 1922.

A leader in conservation, a guiding hand in many public affairs, Ross L. Leffler this month can look back over more than two decades of distinguished service to the sportsmen and citizens of the Commonwealth without a penny of remuneration. The future of wildlife conservation in Pennsylvania has been cast from the mold Ross L. Leffler helped to pattern.

Pennsylvanians should be grateful for their public spirited citizens who unselfishly contribute so much for the benefit of all.

CONSERVATION WILL ALWAYS NEED MEN LIKE ROSS L. LEFFLER

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Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

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Scouts Enlist for Conservation

Of all the great youth movements that have marched across the face of our land, none has left a more stirring imprint than Scouting. Millions of American boys have gained new conceptions of themselves and their nation through scout experience—conceptions molded from service to their community and country. Today, many of our nation's future leaders are being trained in America's 45,000 Boy Scout Troops and Explorer Units.

This month, during National Scout Week (February 6-12), the Boy Scouts of America celebrate their 41st Anniversary. Scouts and Scouters from East to West, from North to South will pause to review a glorious past and to plan for even greater achievements in the future.

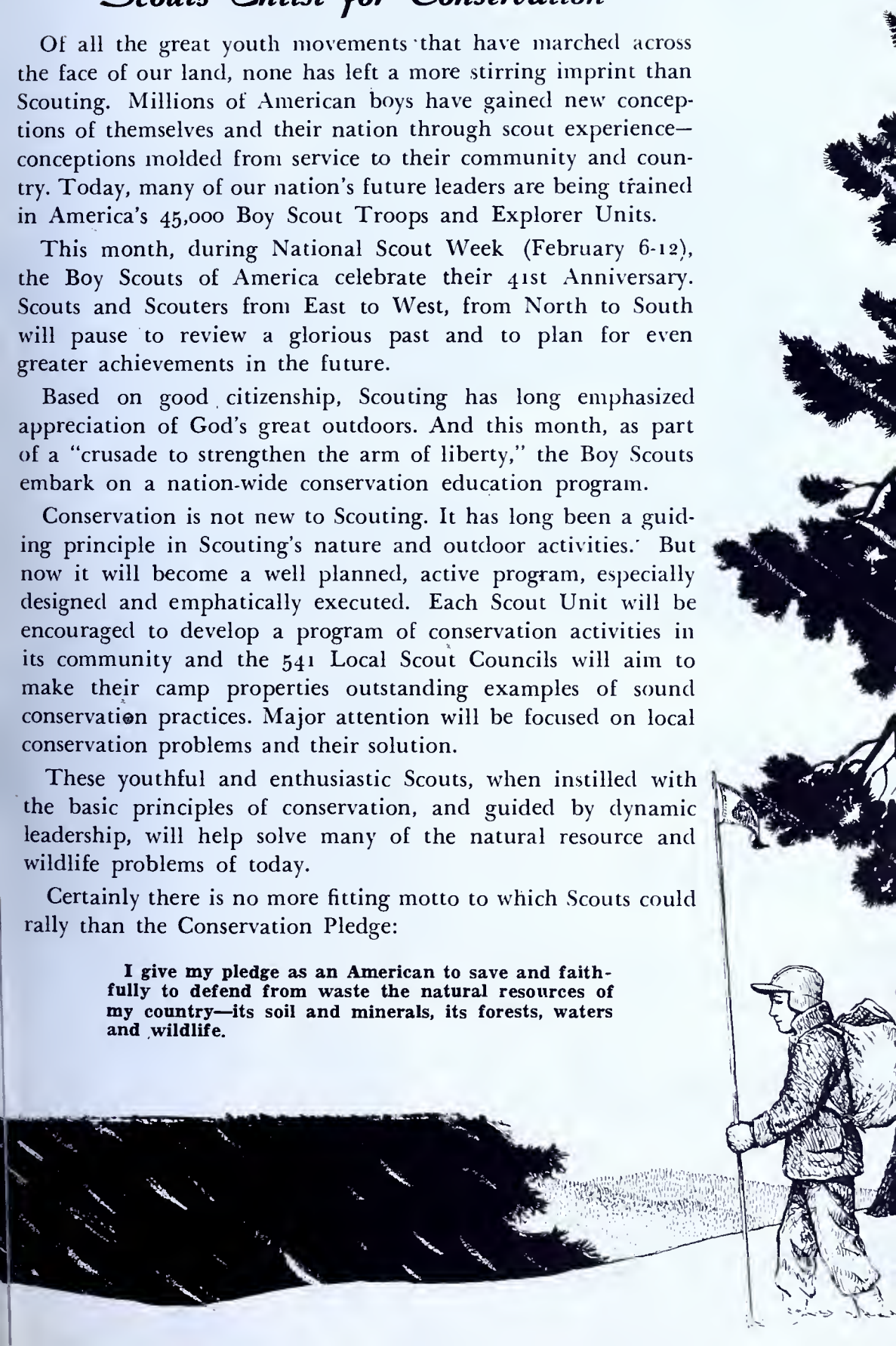
Based on good citizenship, Scouting has long emphasized appreciation of God's great outdoors. And this month, as part of a "crusade to strengthen the arm of liberty," the Boy Scouts embark on a nation-wide conservation education program.

Conservation is not new to Scouting. It has long been a guiding principle in Scouting's nature and outdoor activities. But now it will become a well planned, active program, especially designed and emphatically executed. Each Scout Unit will be encouraged to develop a program of conservation activities in its community and the 541 Local Scout Councils will aim to make their camp properties outstanding examples of sound conservation practices. Major attention will be focused on local conservation problems and their solution.

These youthful and enthusiastic Scouts, when instilled with the basic principles of conservation, and guided by dynamic leadership, will help solve many of the natural resource and wildlife problems of today.

Certainly there is no more fitting motto to which Scouts could rally than the Conservation Pledge:

I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters and wildlife.





Million Dollar Conservation Triumph

by Roger M. Latham



PENNSYLVANIA Conservationists should take a bow! Because of their foresight, their initiative, and their unceasing protective efforts, a valuable fur animal, which had been completely extirpated at least since 1884 and perhaps earlier, has been restored to the state. This is an outstanding example of conservation progress. In 1916 not a single wild beaver was known to exist in the entire 45,000 square miles of the Commonwealth, but eighteen years later the trappers were able to harvest over 6,000 of these animals during a single six-weeks season. And the trappers of Pennsylvania have taken and sold over $680,000 worth of these furbearers during the past 16 open seasons. This is certainly practical conservation!

Beavers Galore

The early history of the beaver in Pennsylvania was marked by the same greed and thoughtless exploitation which resulted in the extermination or near extermination of several desirable birds and mammals and the general waste of our natural resources. Probably originally, every suitable stream in the state had one or more beaver colonies somewhere on its course. Seton estimated that at one time there were over 200,000,000 beavers in North America. But from the time of the early trapper-explorers and agents of John Jacob Astor until the middle 1800's, this animal was hunted relentlessly without thought of future harvests. The Hudson Bay Company alone shipped over 100,000 pelts a year for over two centuries and during the best years marketed as many as 250,000. Apparently the obvious and logical practice of leaving sufficient seed stock to insure a constant harvest and a constant income never occurred to the trappers, or else each was afraid that another would catch any left for that purpose. At any rate, the meager records indicate that the beaver had joined the wolf, the panther, the elk, the buffalo and all the others which had been unable to survive the white man's civilization" by the latter part of the past century.

A few records have been found which tell of the "end" of the beaver in Pennsylvania. It was believed that the last beaver in Clearfield County was trapped in 1837. Another report stated that a few were still alive in Centre County in 1867. Probably one of the last killed in the state was one taken on Pine Creek in Clinton County in 1884. The man who reported this incident was convinced that this was the only one remaining on Pine Creek and its tributaries.

Beaver's Comeback

The story of the reintroduction and reestablishment of the beaver in Pennsylvania demonstrates this animal's amazing ability to increase and spread when provided with suitable range and adequate protection. One lone pair of beavers, a gift from the state of Wisconsin, was released during the summer of 1917 on East Cowley Run near Sizerville, Cameron County. This pair, true to the well-deserved descriptive—the "busy beaver," began at once to build a dam and the following spring produced a family. By the fall of 1919, the original pair and its offspring had built a series of dams which covered a full mile of the valley. At the same time, dams were miraculously appearing on other streams eight or nine miles away. Colonies were established on Parker Run, Hunts Run, and Bailey Run. By 1922, most of the streams in southern McKean and northern Cameron County were well stocked—all from the two Wisconsin beavers.

Because this original planting was so successful, the Commission began to buy beavers live-trapped in Algonquin Park, Canada. Four pairs were purchased in 1919, 24 pairs in 1920, and 6 pairs in 1922. Twelve other pairs were bought from New York State in 1924 and released on game refuges throughout the state as the



Hal Harrison Photo

A finished beaver dam, on the downstream side, presents a tangled mass of hundreds of thousands of poles and limbs, criss-crossed and intertwined much like a giant brush heap.

others had been. From these 47 pairs have come all the thousands of beavers which have been harvested during the past 16 years plus all those now living in the state.

What is the answer to this phenomenonal restoration of the beaver? Simple. The initiative to transplant in the first place, nearly ideal habitat, enforced legal protection, and scientific management provide the answer. Optimum habitat was provided by a newly-established second-growth forest which in many places was composed of ideal food trees, particularly the large stands of aspens which followed lumbering and fires. In the mountain valleys, the beavers could find food and dam-building materials within a few feet of the stream banks. Here was a beaver paradise!

Credit Due

But for the initiative for transplantation and for the provision of adequate protection and sound management once these animals were transplanted, the people of the state owe a vote of thanks to the Game Commission. It was they who bought the original stock; it was they who proposed the law which passed the Legislature in 1903 providing a penalty of $100 for killing or capturing beavers; it was the Game protectors of this conservation body who enforced this law and subsequent legislation pertaining to the beaver; and it was this Commission which has wisely managed this valuable resource by carefully-regulated seasons and bag limits.

But this restoration miracle has benefited more than just the trapper. The beaver has become one of the outstanding attractions among the wild animals of the state, and nature lovers and tourists find countless hours of pleasure in observing these artisans and their work. Hotel and tourist-home owners admit that

the presence of beaver dams in the region aids greatly in attracting trade.

Best Dam Builders Anywhere

There is good reason why people delight in watching beavers in their natural habitat. The construction of their dams and lodges may not require as great a degree of creative skill as the comb of the honeybee or the web of the spider, but the end result is much more spectacular. The breastwork of one dam in Montana was found to be 2,140 feet long! The height of a beaver dam may measure from 10 to 18 feet or as little as a few inches. A dam in Wyoming, 30 feet long and 18 feet high impounded over 75,000,000 gallons of water and created a lake almost a mile in circumference. Yet, in spite of the tremendous pressure exerted by these many thousands of tons of water, this dam held. Often these structures of sticks and mud will remain intact through floods which wash out man-made dams of reinforced concrete. In fact, all over the country there are examples of dams still intact and holding water after a hundred or more years.

Construction is actually relatively simple but involves a tremendous amount of labor. Once the site has been selected (often without the display of much engineering skill), the beavers begin by placing green poles and limbs in the channel more or less parallel with the banks. These are anchored against convenient rocks or logs, and mud and stones are placed on top to hold them in position. As more poles and limbs are added, the weight of the mass holds the dam in place. When the original channel is blocked off to a sufficient height, mud is carried in large quantities onto the upstream ends of the poles until these are completely covered. Thus, the finished dam, on the downstream side, presents a tangled mass of hundreds or thousands of poles

District Game Protector Ray Sickles, left, and Deputy Bill Guiney inspect a large beaver house in the Conneaut marshes. From these marshes and others like them in Crawford County, more than 500 beavers were trapped in 1950.

Hal Harrison Photo



and limbs, criss-crossed and intertwined much like a giant brush heap, whereas the upstream side is a sloping ramp of mud and stones. Most of the stones found in a beaver dam weigh five pounds or less and are carried by a single beaver, but a 120 pound stone was reported to have been placed on a dam by the cooperative efforts of four beavers.

Tale of a Beaver Tail

Poles, limbs, and branches are held tightly by one end in the beaver's teeth and towed downstream to the breast of the dam where they are placed into position. The tail is not used at any time in dam building except as it may aid in swimming or balancing. All mud and stones are carried clasped tightly to the beaver's breast by its front feet. Once the job is completed, the labors continue because there is constant need for repair to keep the water at maximum depth. Leaks occur because of the rotting and settling of the wood and because of floods washing portions of the top layers away. All members of the colony, except kits, aid in this maintenance work.

The size of a dam, or the number of dams in a given area, is not a good indication of the beaver population. As fast as food trees are exhausted, the beavers move either up or down stream and build another. If food is not plentiful, one colony may build and maintain several sizeable dams and give the false impression of the existence of several colonies.

Dams are not the only feats of engineering skill, however, for beavers build lodges and dig rather remarkable canals. The lodges are usually no more than a large heap of poles, limbs, and mud with a hollow chamber inside. The entrance to this chamber is always under water, and permits access to the water and the feed stored at the bottom of the pond even when it is completely frozen over. Additional materials are added each year, and a lodge which is used for several years may grow to immense proportions and may even contain chambers located at two or three different levels. One Wisconsin beaver lodge measured 40 feet wide and 14 feet high.

The canals of beavers are thought by some naturalists to represent a greater display of intelligence than dams or lodges. These canals are dug as an aid in securing food when the supply is some distance from water. Seton reports finding a beaver canal in New York State which was 654 feet long and nearly 4 feet wide. This canal led to a grove of aspen and yellow birch which was cut for food and dam building materials. Probably a canal of this magnitude represented the work of several generations of beavers. These canals often terminate in tote roads over which the beavers drag the cut up portions of the felled trees.

. . . To Be Continued

TIPS FOR BEAVER TRAPPERS

If you plan a trap-line for the valuable "broad-tail" during the 1951 open season, 7:00 a.m. February 15 to 12:00 noon March 1, know and abide by these important rules and regulations designed to conserve and perpetuate Pennsylvania's beaver population.

Season and daily bag limit is 2 beavers, to be taken by traps only. No trapping is permitted at Commission-posted dams. Non-residents may not trap beavers. One person may set, tend or operate 10 traps only. Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline of the structure of either. Pelts must be tagged within 10 days after the season closes and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in the District or County where they were trapped.

The Best Time Ever

By Jack Anderson



TILL now he sat very quiet and looking as if he'd rather be invisible, a tall shy kid with curious light blue eyes and brown hair that curled down-forehead like a pig's tail. But now he was talking. Talking to a group of senior sportsmen, talking with sun-browned hands swinging and curious blue eyes popping and glistening.

The change from shy quiet to excited talking kid came at the exact moment I asked how he'd like the Junior Conservation Camp the Monroe County Federation of Sportsmen had sent him to. Then we saw him get that very-good-for-a-boy, feeling of importance. His blue eyes took fire because he knew something we didn't know; something which would interest us. He lost self-consciousness and was full of talk. Good talk. Outdoor talk. Not street talk. Clean talk, as clean as mountain rivers and big blue sky.

So the kid with the curious light blue eyes told us about a project that is one of organized Pennsylvania sportsmen's greatest achievements: the Junior Conservation Camps. As the kid spoke, occasionally backhanding the pig's tail of hair from his eye, I let my mind drift back twenty-odd years. What a grand experience the sportsmen had given this boy! Likely, it was the high-point of his young life, an experience that would stand high in his memory as a grown man. I thought: what need would there be for a juvenile court if every boy could attend such a camp?

"Boy, did they feed us at that camp!" the blue-eyed kid exclaimed. "I ate so much I knew pop would be ashamed of me if he knew. Everybody must have gained a couple pounds the way they ate!"

Laughingly a senior sportsman asked, "If you ate so darned much,



Penn State Photo

Junior sportsmen, gathered together at a Conservation Camp such as this, are outstanding examples of "Americanism" in action.

weren't you too groggy to learn something?"

"Heck, no! They made everything so interesting;" And then the blue-eyed kid told us things we didn't know. A man is a kid at heart, and I know my eyes were bigger and my lips hanging some as I listened. The kid told us how to make fish line from bark. How to get water from grape vines. What kind of berries you can eat when lost in the woods.

I guess there is a little of the Indian in American blood. Talk such as the kid gave us makes you eager to hear. You like it. You smell woods-smoke and hemlock boughs and shotgun powder. You hear the foxes yapping and the hounds barking.

"How did you live at camp?" one of the senior sportsmen wanted to know.

"Oh, we had dandy little cabins that made us snug as a bunch of bugs." The kid described the cabin and then bragged about the marvelous counsellers they had. "Course

we had to keep the place looking like something . . . but any work, even the K. P. duty we all had once, was just fun. You know, another thing I'll never forget, is meeting guys from all over Pennsylvania. Till I went to that camp I'd never met a guy from outside eastern Pennsylvania. It was interesting to hear what fellows say from the coal regions or western Pennsylvania did for fun. Naturally, I bragged a lot about the Poconos—"

"Maybe exaggerated a little," one of the senior sportsmen suggested, smiling, no doubt at memory of his own youthful exaggerations.

"Well there was one guy maybe I stretched things a little when I talked to," the kid admitted and looked thoughtfully serious. "He thought there was no place like his home town. So I had to make our deer more plentiful and the rabbits bigger and, darn, I guess I did make our hills grow some and our rivers flow a little deeper . . . but darn! He insisted on slinging it, so I had to do something!"

We all had a good laugh and the kid went on, "One day they took us up on a fire tower. Showed us the instruments they use to spot fire and instruments they use to make up weather information. Was that tower ever high! One guy got half-way up and sat down on a step and wormed his way back down. He couldn't take it. I felt kind of funny in my belly, but darn if I was going to let anybody know it!"

"What else did they show you about the woods?" a senior sportsman prompted.

"Well for one thing, they showed us how to fell a tree. There's a trick to that stunt I never knew. And they taught us how to read a compass, and taught us how to identify trees and birds and flowers. Of course not *all* trees and birds and flowers, but some of 'em at least! Oh yeah, I darn near forgot, they took us to a tree nursery, too. That's interesting to see how they collect the seeds and make beds for young trees to grow and how they transplant them after a couple years."

"That's something I've never seen," a senior admitted.

"But how about guns?" another senior asked the kid. "Teach you anything about guns?"

"Boy, *did they!*" The kid's blue eyes jumped with excitement. "They took us right out on a rifle range and taught us how to use a rifle. I thought I knew a little about a gun but I soon found out I didn't know nothing."

We were very much interested. Our local junior club had a twenty-two rifle team, and Tom McCool, one of the Poconos' best gun and rifle men, had given them lectures on safety precautions and care of weapons.

The boy with the curious light blue eyes was a member of our local junior club. The Junior Sportsmen, it's called, a branch of Pocono Mountain Sportsmen's Association, with the home county Monroe. This club was organized in 1948 and already has over one hundred members from 11 to 16 years old.

"Your pop tells me you like to sleep late mornings," a senior member told the kid, grinning as he spoke. "Did they let you sleep late out there?"

"Like heck, they got us out of bed at six-fifteen. But it's easy to get out of bed when you have something to look forward to. Then too, don't forget it was lights out at ten o'clock."

"Lights out!" exclaimed a senior sportsman. "Sounds pretty much like the army. I'll bet you kids didn't fall asleep right at ten o'clock. Bet there was a lot of short-sheeting and putting shavings in bed and stuff like that."

The kid with the curious light blue eyes smiled. "We kidded around a lot, but if you made too much racket after lights out a counsellor

bawled you out. They weren't what you could call strict, but you couldn't do just as you darned please either."

Then the kid went over to a nearby table, where we saw him fumbling among booklets and papers. While fumbling he explained that all of these publications had been given him at the camp.

"I forgot to tell you about soil conservation. Boy, I never knew how the good soil of farms and woodlands could wash right down the rivers. And how erosion could affect wildlife. Gosh, they made soil conservation as interesting as fly tying."

"You learned to tie flies, too?" I wondered.

"Sure. Want me to tie you some flies?"

I nodded, smiling. Then, on one of the blue-eyed boy's papers, I read the summary of subjects and personnel in charge of teaching. There was Survival, under Charles Ridenour, John Dittmar, James Dittmar and Don Kepler. Forests and Waters; Ben Gipple, William H. Smith, R. E. Chamberlin, C. A. Lightner, John E. Aughanbaugh, Albert A. Mickalitis. Spoil Bank Area and Forest: Dr. William Bramble, Prof. H. Norton Cope, Darrel F. Russ, Geoffrey B. Coleman, David P. Worley. Sanitary Water Board: John W. Gittens. Soil Conservation: Henry Warner, Hayes Palmer, Maynard Hench, Walter Steputis, Roy Harnish, John Kline, Mr. Kimmel. Fish Commission: C. R. Buller, Arthur D. Bradford. Wildlife Research: Dr. Ward M. Sharp. Game Commission: Wilbur M. Cramer, A. Clinton Ganster, Samuel Reed, Joseph A. Chick, Arthur G. Logue. Willaid Johns. Meteorology: Prof. Larry Perez. Mineral Resources: Albert Ingham, S. H. Cathcart. Archery: Mr. Clayton Shenk and Mr. Troutwein.

I realized suddenly that the Conservation Camp was in reality a short outdoor college course!

Trapping instruction by Game Commission experts gave the young sportsmen valuable information on predator control and the fur harvest.

Penn State Photo





Hal Harrison Photo

"They took us right out on a rifle range and taught us how to use a rifle."

"One thing our club wants to start," the enthusiastic blue-eyed boy went on, "is a fire-fighting squad. Heck, we can help if the Poconos catches on fire this fall! We were shown all kinds of ways to fight fires and all kinds of fire-fighting equipment."

As he talked, I realized that some of the greatest problems of our junior club were being answered. For our junior club is a pioneer outfit. There hasn't been too much experimentation with such organizations. We had no trouble getting membership for the club, but we had a lot of trouble finding suitable projects to keep the boys busy and subjects to teach at meetings.

"Why not have the district forester take the boys on a tour of our local fire towers?" I was thinking. "Then we could have a good compass chase some night. And if we could get one of our local fly-tiers to hold a school—"

After three years of working with our junior club, we realize some of our big mistakes. Our biggest mistake was feeding heavily to get the kids to meetings. That was an expensive mistake. "Chow" isn't necessary. Good informative outdoor movies are the best drawing card. Next, interesting and short-winded speakers.

Most important of all, you must make the boys feel, by projects (game feeding, rifle teams, tree planting, etc.), that they are doing something worthwhile.

That's why the blue-eyed boy, and the rest of those fellows who attended summer camp, came back so enthusiastic. They felt that they had learned something worthwhile.

When the Junior Sportsman's Club had its first meeting two years ago I remember a shy, awkward kid who usually sat alone seldom speaking, looking straight ahead with a sort of embalmed smile. He never missed a meeting but added little with his presence. "He hasn't found himself," one of our senior members expressed it.

All of us remember that shy and awkward kid, and that's why we are so proud of this same boy today. He's still shy, until you talk about outdoor sports or conservation. Then he talks with assurance. He talks with such assurance that the boys have elected him as club president.

I watched him conduct his first meeting. He kept the boys orderly and interested, and you saw their heads eagerly held forward when he spoke of Junior Conservation Camp.

He is the kid with the curious light blue eyes—and he is a product of the sportsmen of Pennsylvania. We can all be proud.

. . . The End.

The Ones That Got Away

BY BILL WOLF

MOST persons have a good fund of hunting stories to tell in the evenings when the talk turns to other days, other hunting trips. Tales of successful chases, thrilling moments, perfect marksmanship—and the dead game falls all around the room, killed by the deadly fire of guns loaded with high-powered anecdote. When the conversation turns thus, I make myself useful by shovelling out the game already killed to make room for the next batch brought down by ensuing verbal discharges, and I remain discreetly silent. I can't match them story for story because most of my big moments seem to concern game that *wasn't* killed.

This isn't due entirely to a lack of marksmanship on my part, but to a disconcerting habit the game has of appearing when or where it shouldn't. Everyone has recollections of game encountered out of season, or under circumstances where shooting was impossible, but I feel that I have had more than my share of such experiences.

Smoked Venison

There was the time we were bear hunting several seasons ago. Five of us met around noon for lunch, and built a warming fire well up the side of a ridge where we could keep an eye on the edge of the swamp at the base of the rise. The leaves were down and visibility was good. Smoke from our fire drifted down the slope toward the swamp.

We heard the animal moving before we could see it, and had a few tense minutes until a buck deer emerged from the rhododendron well below us, whereupon we relaxed.



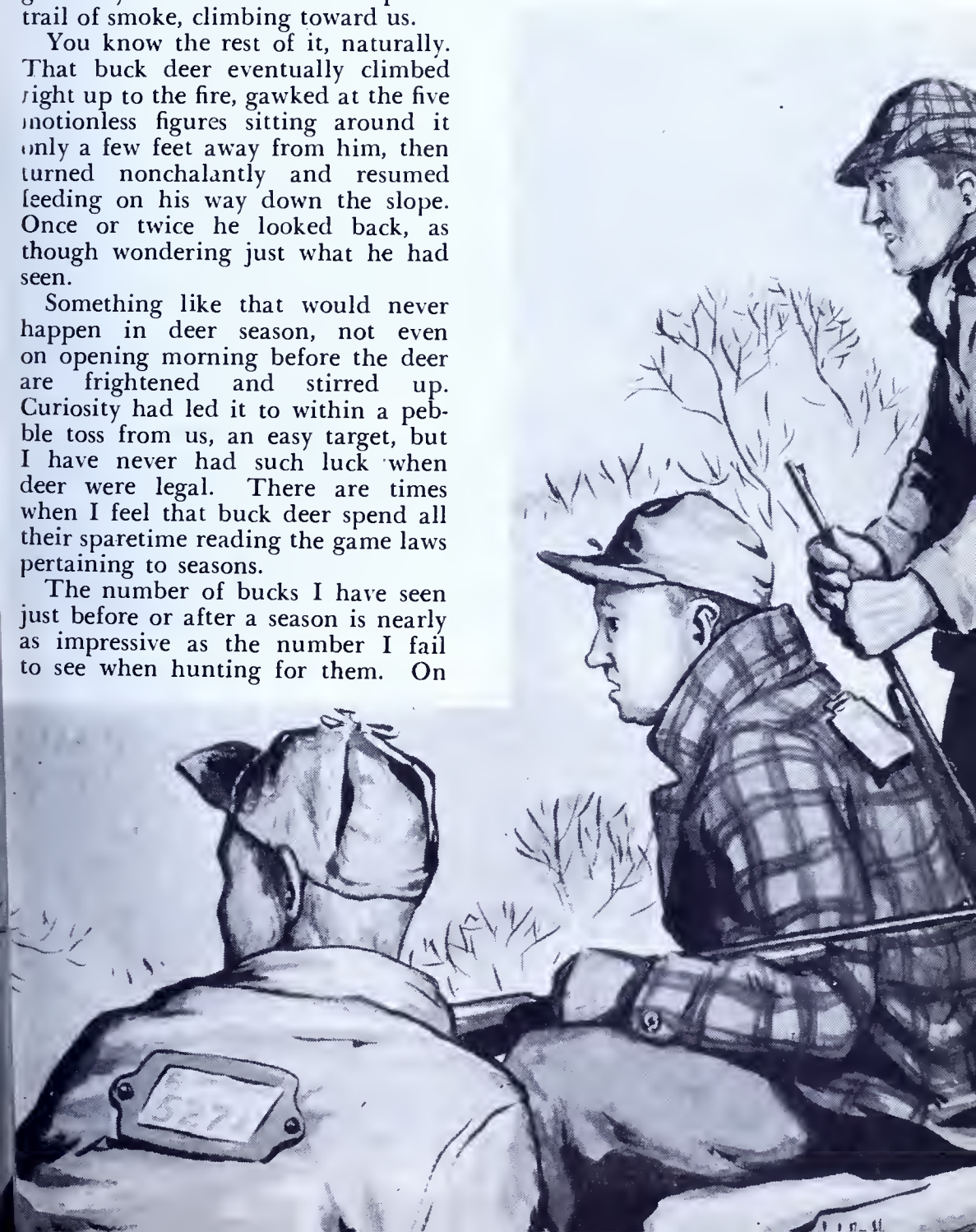
Deer were not yet in season, of course, although this buck would make a nice trophy for someone in a few days.

He fed casually and undisturbed until he caught a whiff of the smoke. He cocked his head and looked straight up the hill. We didn't move or talk. He returned to browsing, but seemed disturbed by the odor and gradually started to follow up the trail of smoke, climbing toward us.

You know the rest of it, naturally. That buck deer eventually climbed right up to the fire, gawked at the five motionless figures sitting around it only a few feet away from him, then turned nonchalantly and resumed feeding on his way down the slope. Once or twice he looked back, as though wondering just what he had seen.

Something like that would never happen in deer season, not even on opening morning before the deer are frightened and stirred up. Curiosity had led it to within a pebble toss from us, an easy target, but I have never had such luck when deer were legal. There are times when I feel that buck deer spend all their sparetime reading the game laws pertaining to seasons.

The number of bucks I have seen just before or after a season is nearly as impressive as the number I fail to see when hunting for them. On another occasion, four of us were hunting grouse on the last day of the season (and the day before deer season opened, except for an intervening Sunday) and stopped to rest and talk. Undismayed by the noise we were making, and the fact that we were in plain sight, a huge buck with a 10-point wide spread walked right



up to us. It, too, stared several minutes, snorted and ambled quietly away. Of course, we were back in that region opening morning, and, of course, we didn't see the buck.

The distressing thing about it is that, in the past ten seasons, I have seen exactly two bucks when they were legal, and one of those was too far away and traveling too fast for me to waste ammunition or even hope to hit it. That's extraordinary considering that I hunt in fair to good deer country, and spend the better part of a week, at least, deer hunting each year. My friends go out at the same time, and same place, and at least get a shot at a buck.

This is no complaint, but just an attempt to explain why I often remain silent when the hunting stories are going around. And deer aren't the only things that cross me up, either.

On one other last day of grouse season, we practically had to push deer out of our road as we walked through the woods. They acted like cows, getting in our road—but we didn't get much grouse shooting. We saw far more deer than grouse. Then, when deer season opened a day later, we hunted the same territory, and I could have literally caught grouse with my bare hands. I was walking along with rifle ready for any deer that might be stupid enough to come by when I nearly leaped out of my skin at an uproar at my feet.

It sounded like a lot of .22 automatics firing with machinegun rapidity. I recovered enough from shock to look down and see two grouse all tangled up in a maze of roots where they had been hiding, trying desperately to get out from under my feet, and bouncing back and forth like dice in a wire cage. Their beating wings created the noise. I could have reached down and picked up both before they broke free. And I didn't see any deer that day.

Once I spent several fruitless days deer hunting, and on the fourth day settled down on a sunny slope for a rest after eating lunch. I fell asleep and was wakened by a strange sound. It resembled the ticking of a watch, but I had no watch with me.

I opened my eyes and there, right beside me, was a grouse feeding on the ground. The ticking noise was made by its bill tapping on the leaves as it fed. I could have snatched it without moving because it was no more than a foot from my head. I scarcely breathed, and it went right on eating, gradually moving away from me. It was not aware of my presence at any time, I'm convinced.

When it got a few yards away, I raised myself cautiously to see where it had gone. There was a moment of dead silence, then it exploded into the air, frightened at last.

But would a deer come up to me when sleeping like that while hunting deer? Of course, not.

Bird In Hand

A friend of mine had a somewhat similar experience, only more unusual. He, too, was deer hunting when a grouse walked right up to him. He picked it up. It was alert and bright-eyed, not sick and not injured so far as he could tell. It showed no signs of fear.

So there he was, holding a live and unafraid grouse in his hands, and he was overcome with a horrible fear that no one in his camp would believe him. In fact, he could scarcely believe it was a genuine, live bird he held. He did the only thing possible to prove his story. He put the bird gently in his game pocket and hightailed it back to camp. After everyone had seen the bird, he tossed it lightly into the air and it flew away as any normal grouse—except that it wasn't a normal bird.

It deserves a place in a listing of trophies such as I keep mentally, called Game That I Might Have Killed, but Didn't. Like that groundhog that did an insane thing one

spring day when Nate Hall and I were setting up tackle for trout fishing in the hill country.

The woodchuck came shuffling up the road, saw us, and decided we were pretty interesting characters. He sat down and watched intently as we put the rods together. He looked critical as we strung the line through the guides and tied on leaders. When the flies were tied on and we started down to the stream, the woodchuck got off his haunches and waddled



along, like a pet dog. He followed us along the stream for some distance, and, then, apparently deciding there were more interesting things to do than watch us, he set off for parts unknown.

The astonishing friendliness sometimes shown by wild things is well known to the men who hunt them; but I can't understand why they have to show it when they are out of season!

The Bear That Wasn't There

More puzzling than game that appears out of season is game that doesn't appear at all. This may be a hard-to-believe statement; but in all the years that I have lived, fished, hunted and camped in the woods of Pennsylvania, I have never seen a live black bear there.

I have hunted bears, and saw none. I have been deer hunting, and have come upon fresh bear tracks and even droppings, still steaming in the cold air—but I've never seen the animal itself.

Most of my Pennsylvania fishing is done in good bear country, and you would think that sooner or later I would come upon one. I camped back in the mountains for long periods at a stretch and see bear signs on the trees everywhere—but, as far as I'm concerned, the black bear of Pennsylvania is a non-existent animal, a mythical beast invented by adults to scare children into obedience.

The strange thing about this bear that isn't there in Pennsylvania is that I see them in almost every other place that I visit, in Maine, Quebec, Ontario, and just last September I scared the devil out of a brown bear on the St. Croix river between Minnesota and Wisconsin when the boat in which I was floating downstream came up to it silently as it ate a meal on a rock.

But I can't even tell other hunters about the bear I saw in Pennsylvania and missed when they get to talking about what *they* have seen. Such things can lead to an inferiority complex. Why, one of my friends was fishing this past spring in a place where there aren't supposed to be any bears, and was startled out of his wits by coming face to face with one on a path beside the stream.

Unexpected Pleasures

Finally, there is that other phenomenom with which all hunters are acquainted—the game that gets up at the worst possible moment for shooting. It's all very well to say that a smart hunter is prepared at all times; but what do you do when crawling on your belly, pushing your rifle ahead of you, to get through a rhododendron hell, and meet an equally startled buck deer while in this position?

That happened to a friend of mine, an experienced hunter who goes after deer each year despite a .30-40 Krag bullet which he still carries in his head, nearly a score of years after it was put there by a careless gunner in Michigan, and which destroyed the sight in one eye.

He got the buck, but not at that moment because he couldn't even raise his rifle in the tangle. The buck foolishly stayed in the rhododendron until the hunter got clear. It was one of the nicest deer, by the way, that I have ever seen taken in the western Poconos, with 14 points and an unusually wide spread of antlers.

The hunter was lucky. Usually, such situations wind up with the gunner staring helplessly while the deer bounds away. In the same way, pheasants have an annoying habit of getting up just as you are crawling through some strands of barbed wire with your gun on the ground. Or rabbits will bounce into action beside you, just when you and some hunting companion have paused at the end of a field to talk, and have your guns broken open for safety's sake.

Likewise, grouse ordinarily aren't encountered on the roofs of buildings; but I met one there. The only grouse I met that day. I had driven up to the mountains, arriving at noon. After a sandwich I got my gun out of the car and started walking into the woods. There were a number of small cabins around the roadside hotel and I was just reaching into my pocket for some shells when a grouse took off from the roof of a small structure.

Of course, I couldn't shoot.

When the season is over (grouse, deer, rabbit, bear or any season), the birds and animals read about it in the papers, and come out of seclusion. They dance down the road, they leap into the air, they gaze with mocking eyes from the shrubbery at the man who has put his gun aside for another season. They know, they know!

Surprisingly, I don't mind too much taking a back seat when the stories are told in the evening about the kills made on other hunts. I listen, not enviously, and reflect that at least I never had to clean and pluck or skin the Game That I Might Have Killed, But Didn't. And I don't have to shovel out the game killed by deadly anecdote from the barroom, country kitchen or parlor where the stories are told. I do it voluntarily to help keep the floor clean.

There are some advantages to the kind of luck I have experienced.

. . . *The End*

The Snowy Owl Invasion of 1949-1950

by William C. Grimm



DURING the past winter the newspapers throughout the state carried periodic reports about Snowy Owls, for these large white visitors from the Arctic regions were seen in virtually every part of Pennsylvania. The winter of 1949-1950 was an "invasion year." Although a few of these owls reach Pennsylvania almost every winter, there are periodic winters when they come down from the North in large numbers. This seems to happen about every fourth winter. It is explained by the fact that there is a periodic scarcity of food for these birds on the tundras of the far North, so they are forced to seek food elsewhere in regions often far to the north of their normal range.

In their northern homeland Snowy Owls subsist principally on mice and lemmings, particularly during the winter months. At intervals of approximately four years there seems to be a general and precipitous decline in the population of these rodents, and consequently there is food scarcity for the predatory birds and mammals which ordinarly consider them as their "bread and butter." Marked invasions of Snowy Owls have occurred in the northeastern United States during the winters of 1926-1927, 1930-1931, 1934-1935, 1937-1938, 1941-1942, 1945-1946, and again during the winter of 1949-1950. On the basis of this four-year cycle we may reasonably expect another invasion of these owls to occur during the winter of 1953-1954. A sharp decline in the rodent population in the far North apparently occurred immeditely proceding each of these Snowy Owl invasion years.

The Snowy Owl is a large and spectacular bird. Some individuals are almost pure white while others

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* *Leader, Pittman—Robertson Project 42-R, Survey of Pennsylvania Mammals (Northeast sector).*



Lynwood Chase Photo

The Snowy Owl is a large and spectacular bird. Some individuals are almost pure white while others are quite heavily barred with dusky brown.

are quite heavily barred with dusky brown. The male birds are considerably smaller than the females, and they are generally much whiter. Large individuals may have a wing spread of as much as 65 inches. Snowy Owls have an extensive circumpolar distribution, and they are found in the Arctic regions of both the eastern and western hemispheres. They breed north of the limit of tree growth, and their nests are placed on the ground. The clutch of eggs usually numbers from five to eight, but as many as thirteen have been recorded.

The previous invasion of 1945-1946 was considered by ornithologists as one of the most noteworthy on record. It extended across the continent from Washington and British Columbia to the Atlantic Seaboard (Gross, 1947). In Pennsylvania, however, the invasion during the past winter seems to have been of a much greater magnitude than that of the winter of 1945-1946. Many correspondents stated that they had seen Snowy Owls for the first time, and the reports indicate that in many localities they were more numerous during the past winter than at any time in the memory of old residents.

The first reports of the presence of Snowy Owls in the state began to trickle in shortly after the middle of November 1949, and thereafter they became widespread and numerous. Apparently the influx of the birds reached a peak between the first and the fifteenth of December, for approximately 50% of the birds reported were either killed or observed during that period. There was a marked decline in the number of records after the middle of December, but they continued to be seen in fairly large numbers until about the middle of January 1950. Thereafter few reports were received, none of them later than the first of March.

Extent and magnitude of the 1949-1950 invasion in Pennsylvania

Following a request for information on the occurrence of Snowy Owls in the state, which was published in the PENNSYLVANIA GAME NEWS for February 1950, we received correspondence from a number of persons residing in practically all parts of Pennsylvania. At many of the localities more than one owl was seen or killed. A summation by regions and counties is presented in tabular form. It must be remembered that the table is based on birds reported. It can be assumed that owls occurred in many other localities, and that a great many of the birds which were both seen and killed were not reported.

From the reports which were received it is obvious that these owls were fairly well distributed over the state. Inasmuch as the Snowy Owl is not a bird of the forest, it was to be expected that relatively few returns would be received from the more heavily wooded and mountainous regions of the state. The distribution of the records which were received quite definitely follows a pattern corresponding to the more open and agricultural sections.

The most noteworthy concentration of birds occurred in Erie County, along the southern shore of Lake Erie. Large numbers were reported throughout Erie, Crawford, and Warren counties in the northwestern portion of the state. Game Protector Clifford L. Ruth reported that upwards of fifty of these owls were killed in the eastern portion of Erie County alone, and that a great many more were seen. Twenty or more birds were killed on Presque Isle alone, and it has been reported that sixteen were killed there on a single day. Game Protector Sickles states that at least sixteen were killed

in the Pymatuning region in western Crawford County.

In the central portion of the state reports were rather scattered, but there were apparently local concentrations in the agricultural valleys even in this section. From Montour County, Game Protector Bruce P. Yeager reported that the birds were more numerous than at any time during his tenure as a game protector in that section. He stated that fifteen had been taken in the northern part of Montour County during the last week of November and the month of December. At least a half dozen are known to have been killed in the vicinity of State College, Centre County. There were scattered reports of owls both seen and killed in Bedford, Fulton, and Franklin counties.

Snowy Owls were evidently unusually numerous in the agricultral areas of southeastern Pennsylvania, where they were often seen even in the towns and villages. Many persons reported having seen one of these owls perched on a roof top, on a pole, or on a television aerial. Several reports were received of owls the residents of this Section of Pennhaving been seen in towns like York, Lititz, and Lancaster. To most of the residents of this section of Pennsylvania, the sight of one of these big, white, Arctic owls was a novel experience. Strangely enough, there were very few reports of Snowy Owls farther north in the eastern part of the state; and likewise very few from the extreme southwestern section. Apparently the birds did not drift as far south in the western part of the state as they did in the eastern portion, at least not in very great numbers. Beaver, Washington, and Greene counties in the southwest were among the few counties in the state from which we received no reports.

Economic Status of the Snowy Owl

The Snowy Owl is not protected by law in Pennsylvania. Its status as a predator has been argued pro and con in the press, particularly during the recent invasion. Ordinarily it may be regarded as a "rare and infrequent visitor from the North, and as such it is of comparatively little economic significance. Several correspondents during the past winter stated that they had observed the birds in the act of eating rabbits which they apparently had killed. Near Cambridge Springs seven Snowy Owls were killed at one farm where they had been making inroads on guinea fowls. Six of these owls were trapped on Ford Island, near Linesville, at a pen where 3,000 ringnecked pheasants were being held during the winter months. None of the correspondents in other parts of the state reported losses of poultry to Snowy Owls. Merrill Wood, Assistant Professor of Zoology at Pennsylvania State College, reports that three owls of this species were killed at the college poultry plant. However, Mr. Wood stated that "the poultry plant has all chickens under wire in winter, but the area is excellent for rats and mice."

Dr. George M Sutton (1927) published the results of his examination of 123 stomachs of Snowy Owls taken in Pennsylvania. Sixty-three of the stomachs were empty. Of the remaining 60 the remains of cottontail rabbits were found in 26 stomachs, field mice in 9, unidentified rodents in 9, and fox squirrel and skunk were each found in a single stomach. The remains of chickens were found in 9 stomachs, pigeons and ducks were each found in 3 stomachs, bobwhite quail in 4, ruffed grouse in 3, ring-necked pheasant in one, and the

remains of small birds occurred in 9 stomachs. Dr. Alfred O. Gross (1944) comments that in most sections of the country the Snowy Owl destroys many Norway rats and other injurious rodents.

Summary of Occurrences of Snowy Owls By Counties (1949-1950)

NORTHWESTERN:

Erie—Many reported seen; between 50 and 100 killed.
Crawford—Many seen; between 25 and 50 killed.
Warren—Several seen; at least 10 killed.
Mercer—Two reported seen; one reported killed.
Venango—One reported seen.
Lawrence—At least 6 known to have been killed.
Butler—One reported killed.
Jefferson—Two reported seen; one reported killed.
Forest—No records.
Clarion—No records.

SOUTHWESTERN:

Allegheny—Two reported seen.
Westmoreland—Two reported killed.
Fayette—One reported killed.
Indiana—Four reported seen; two reported killed.
Cambria—One reported killed.
Beaver—No records.
Armstrong—No records.
Somerset—No records.
Washington—No records.
Greene—No records.

NORTHCENTRAL:

McKean—Two reported seen.
Potter—Two reported killed.
Tioga—Two reported seen; seven reported killed.
Elk—Two reported seen.
Lycoming—One reported seen.
Center—Six reported killed; several others reported seen.
Union—Two reported seen.
Montour—Fifteen reported killed.
Cameron—No records.
Clinton—No records.
Clearfield—No records.
Northumberland—No records.

SOUTHCENTRAL:

Perry—One reported seen.
Bedford—One reported killed
Fulton—One reported killed.
Franklin—Four reported seen.
Cumberland—One reported seen.
York—Five reported seen.
Blair—No records.
Huntingdon—No records.
Mifflin—No records.
Juniata—No records.
Adams—No records.

NORTHEASTERN:

Susquehanna—One reported killed.
Wayne—One reported killed; one reported seen.
Pike—One reported seen.
Lackawanna—One reported killed.
Luzerne—Five reported killed.
Monroe—One reported seen.
Columbia—One reported killed.
Bradford—No records.
Sullivan—No records.
Wyoming—No records.

Snowy Owls are not protected in Pennsylvania and many are killed during their periodic invasions of the Commonwealth.



SOUTHEASTERN:

Northampton—Five reported killed.
Lehigh—One reported seen; one reported killed.
Berks—One reported killed.
Schuylkill—Two reported killed; one reported seen.
Dauphin—Three reported seen; two reported killed.
Lancaster—Three reported seen.
Chester—One reported seen; two reported killed.
Montgomery—One reported seen; one reported killed.
Delaware—One reported seen; one reported killed.
Bucks—No records.
Lebanon—No records.
Philadelphia—No records.

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. . . *The End*



PGC Photo By Batcheler

Unlike many hawks and owls, the Snowy Owl becomes quite tame in captivity. By nature this rare visitor to Pennsylvania is slow moving and graceful, showing little fear of man even in the wild.



We're Missing a Good Bet

by Frank Edminster

ON the assumption that deer hunting is primarily a sport and only secondarily a venison gathering venture, I think we deer hunters are missing a good bet. We could have several times the hunting hours in pursuit of big game that we now have and not hurt the deer herd enough to matter. How? By pursuit of the wily ungulates with bow and arrow!

Tens of thousands of novice bowhunters have taken to the woods of several nearby states in the few years since the end of World War II to discover the thrills of hunting with this new weapon (*re*-newed is a more accurate description; remember Robin Hood?). The ranks are increasing by leaps and bounds wherever state hunting regulations really encourage bowhunting. And there's the catch!

Deer hunting arrangements designed for rifle shooting are unnecessarily restrictive for bowhunting. The possible kill of deer by bowhunting under even the most liberal rules is small compared to the toll from guns. Compare the success of bow compared to gun in taking deer in Wisconsin and Michigan, two states that have progressed far in liberalizing laws governing archery hunting. In 1949, 12,000 Wisconsin Robinhoods bagged 551 deer or about one per 22 hunters as compared to one deer for every six gunners. And the bowhunters had their choice of *any* deer whereas only bucks were allowed the gunners. In Michigan in 1948, with nearly 10,000 hunters the success ratio with the bow was 1 to 17, compared to 1 to 4 for rifle shooters. New York's first liberalized bow and arrow deer season in 1948 (but still for bucks only) brought out nearly 600 special licensees who bagged a grand total of

nine deer, or about 1 for every 60 participants. This is only about one-seventh the proportion of successful gun shooters in New York. No wonder the *Louisville Times* recently remarked about bowhunting; "The hunters enjoy freedom from business routine and the deer enjoy freedom from fear."

Bow Bagging Bucks Takes Skill

It is apparent that bagging a deer with bow and arrow is much more difficult than with gun, a fact that gives much of the zest to the sport. There are good reasons for this: getting a shot at a deer with bow is short range, open cover hunting which in itself greatly limits the number of chances; it does not have the ease of accuracy in shooting that a rifle offers yet one *can* become very skillful with the bow—a few even get good enough to hit pheasants on the wing. The rank and file will have to add luck to moderate skill to hit their deer even at short range.

The Most Good for the Most People

The objective of modern hunting laws is to provide the greatest possible amount of opportunity for good sport for the full number of people who wish to partake, consistent with the adequate preservation of breeding stock of the game population. The general trend of hunting regulations has been more and more restrictive in an effort to protect the declining numbers of many game species. That was true of white-tailed deer laws until about 20 years ago. In the last two decades the whitetail has recovered to such an extent by adapting its living to farming and semi-farming country that it has been possible—in fact, necessary—to liberalize deer hunting regulations in most states. More and more we have legalized doe hunting in order to keep deer numbers in bounds and prevent them from ruining their own habitat by over-browsing. Proposals to extend the opportunity to hunt deer

Hal Harrison Photo

Tracking deer is part of the Indian-like approach to big game hunting with a bow and arrow. Here, Bud Wiedmaier, Warren Archery Club, shows how it's done.



with bow and arrow are a logical part of this change. So seldom have we had increasing game populations in recent times, it is a pleasure both to game commissioners and to sportsmen to be able to open up the restrictions for a change instead of tightening them. But regardless of whether or not the game species can stand increased hunting pressure, no legislature or game commission can now-a-days unloose hunting restrictions unless sportsman opinion is behind them. Unfortunately, too many sportsmen do not yet realize what they are missing in not having really liberal bowhunting regulations for deer.

There has been lots of talk about bowhunting of late and much of the argument that has opposed a special bow season for deer has come about through misunderstanding. So let's line up the pros and cons of the matter and see how it comes out.

Pros and Cons

As I see it, the most important points in favor of more bowhunting opportunity—say a rule giving a special bow season for a week ahead of the gunning period and with one deer of either sex allowed—are these. It will provide more good hunting recreation without appreciably reducing the deer herd. It encourages a high quality sport that brings great enjoyment to the participants and which offers too little chance for success under present gunning laws. It is a way to help keep the sex ratio in better balance since more does than bucks would be taken under a "one deer" law. Reduction of nuisance deer in areas where guns are not safe to use would be possible by bowhunting, which is a very safe sport. For example, Westchester County, New York, a suburb of New York City, is open to bowhunting of deer; likewise some military reservations.

It is feasible to permit non-resident deer hunting by archery at a moderate fee. New York's special bowhunting season license costs the same $5.25 to resident or non-resident. By reciprocity between states, sportsmen can afford to hunt deer in other states as well as their own thus adding to their sport. Bowhunting ahead of the gunning season presents no difficult problems in law enforcement since the weapon is so specialized.

One can make parts of his own bowhunting equipment. It's more fun to bring down a deer with a weapon made with your own hands than one that is factory made. This gives you more craft work to do during the off season and adds zest to the sport. From the business standpoint, the sporting goods store will add to its sales with a line of archery equipment and materials. The important thing is that bowhunting is not a substitute for gunning; it is an addition to it. It gives the sportsman *more* opportunity to hunt deer.

There are several arguments raised against the idea of pre-gunning season bowhunting. I think these arise from misunderstanding. Some say it's discrimination against gunners. Is there actually any discrimination when any eligible hunter can take up bowhunting if he wishes? Whereas there are but a very few hundred bowhunters in Pennsylvania today, there would soon be many thousands if encouraged by appropriate regulations. Where would these new thousands come from? Gunners almost entirely; fellows that will bowhunt in November and then, if they do not get a deer (which will usually be the case), gun for them in December. Have *you* ever bowhunted deer? If not, think it over. You've a big, pleasant surprise awaiting you when you try it.

How Many Bowhunters?

It is said that bowhunting ahead of the gunning season stirs up the deer to the later disadvantage of the gunner. I doubt if this is so at all. The number of bowhunters will al-



Hal Harrison Photo

Wherever state hunting regulations encourage bowhunting, the sport is increasing by leaps and bounds. But even under the most liberal rules, the kill of deer by bowhunters is small compared to the toll from guns.

ways be relatively small compared to gunners. What little disturbance they cause would not be nothing compared to the gunning that goes on in November anyway for bear, turkey, grouse and squirrels. Remember too that the bow is a silent weapon.

How Much Power?

You may hear someone contend that the bow and arrow is a primitive weapon with too little killing power, hence not humane. Those who believe this do not know the modern hunting bow and arrow. Fewer hit deer will be lost as cripples with arrows than with bullets. The razor-sharp knife edges of the arrow head keep cutting after it lodges whereas the bullet has finished its work when it stops. Any arrow hit that penetrates into the body cavity or at any other place where it can cut a major blood vessel will bring the deer to earth in a short distance. Once you get to know the broadhead hunting arrow (there are as many styles of it as there are with bullets) you will have great respect for it.

Some folks visualize a lot of wounded deer running around with arrows sticking out of them if bowhunting is increased. Such a thought is admittedly not a pleasant one. The fact is though that neither they nor anyone else ever saw such a thing. A deer hit with an arrow soon breaks off the shaft running through the woods so that little if any of it remains visible. A broken arrow usually works itself out of the animal if the wound is not lethal.

Class Legislation?

Probably the most common objection to a pre-gunning season for bowhunting is that it is class legislation, a special favor for the privileged few. The reason there are *few* bowhunters here now is because the sport is not encouraged enough by the present laws. As to its being *class* legislation, I cannot quite understand what class it is. So far as economics is concerned, bowhunting equipment is much cheaper than gun hunting equipment. The best bow and quiver of arrows made would hardly cost much more than half as much as an ordinary deer rifle. The station in life of the folks who bowhunt is the same as the ones who gun. In Wisconsin, 38 percent of the bowhunters were laborers, one percent more than of gunners of the same group. Eight percent of Michigan bowhunters are women, seven percent in Wisconsin. Other groups have about the same proportions of bow and gun hunters except farmers who evidently have not gotten as well acquainted with the bow as have the others. So far as I can see, the specal class idea is a myth.

There are 18 states that have special bowhunting seasons for deer, many of them good for deer of either sex. The seasons run from six days in New Jersey to 45 days in Wisconsin, (76 days in one county in Michigan). The whole lot of them at present bring in a bag of probably less than a thousand deer. But it furnishes a lot of fine recreation for an ever increasing number of sportsmen. We in Pennsylvania have everything to gain and nothing to lose by joining the others. Let's have more sport by encouraging bowhunting. We've been missing a good bet too long already.

. . . The End.

LAW OBSERVANCE ESSENTIAL TO CONTINUANCE OF SPORT

Albert Day, Director of the U. S. Fish and Wildlife Service says: "A subject that must become a personal matter for every honest sportsman is the matter of observing the laws and regulations. They are made first to protect the resources, and second to give everyone who hunts as near an equal break with his neighbors as is possible.



Chambersburg Rod and Gun Club

Squirrels inhabiting the mountains flanking the Cumberland Valley through Franklin County can face the winter with the prospect of being well-fed. More than eleven tons of prune pits, discarded waste of prunes processed by a Chambersburg factory into baby food, were offered to the Chambersburg Rod and Gun Club for winter wildlife feeding. Club president John E. Clark immediately recognized the value of the pits as squirrel feed and took some of them into the mountains last spring to test their "squirrel appeal." As he anticipated, the animals ate the kernels with zest and he soon had eight tons of the prune pits delivered to his auto repair garage. Clark arranged for drying the pits in the open air during warm weather last summer and then bagged them in 100 pound sacks. This winter, with a natural food shortage in the area, the seeds, previously considered as waste, are being distributed weekly by members of the Franklin County clubs. Area sportsmen also are carrying on feeding programs for deer and wild turkeys. Last winter they distributed 625 bushels of apples given by Franklin County orchardists and 300 bushels of corn provided free by the Game Commission and interested farmers.

Sinnamahoning Sportsmen's Association

According to James J. Russell, president of the Sinnamahoning Sportsmen's Association, funds are urgently needed to expand the winter feeding program of the organization in the face of one of the severest winters in recent years. The group has already placed out 300 bushels of ear corn for wild turkeys in the area but at least 1000 bushels more are needed. The club has about 70 game feeders in operation and has urged every hunting camp in the area to erect at least one per camp.

Federation Prepares Farmer-Sportsmen Relations Study

Each sportsmen's organization in Pennsylvania which is presently conducting a successful program of farmer-sportsmen's relationships is asked to immediately submit a detailed report of their work to E. F. Brasseur, 36 Pentz Run Ave., DuBois. A paper on the two month survey is to be prepared by Brasseur for presentation at the February convention of the State Federation in Harrisburg on February 17th.

Consolidated Sportsmen of Lycoming County

Members of the Consolidated Sportsmen of Lycoming county raised and stocked 2,777 of the 3,965 ringneck pheasants liberated in their area during 1950, according to John H. Bender, past president and now chairman of the grounds committee. The remaining 1,188 birds were provided through the Game Commission. Of the 2,777 birds raised by the club, 565 were liberated last spring and 2,212 this fall. Remaining in the holding pens at the Memorial Grounds are 1,395 birds which are to be kept over the winter for stocking in the spring of 1951. In addition, 2,532 rabbits, 383 turkeys and 490 quail were also stocked in the county.

Erie County
Gateway to the Great Lakes

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two staples.

(Sixth In A Series)

Erie County, in the northwestern corner of the Commonwealth, is of unique importance geographically and industrially because it connects the great quadrangle of Pennsylvania with the Great Lakes system of waterways through the splendid harbor of Erie. Ancient battleground of Indians, the county was set up in 1800 from part of the territory of Allegheny County.

Land Area

The county includes 523,648 acres of which 158,868 acres are in forest land and 364,780 acres are in non-forest land. There are 381,613 acres in farms. Erie County contains 7,658 acres of State Game Lands.

Transportation

There are 2,099 miles of public roads including 798 in State Highways and 1,301 in County, Township and Municipal roads. Railroad transportation is furnished by the New York Central, the Nickel Plate, the Pennsylvania, the Bessemer & Lake Erie, and the Erie lines. The Roosevelt Highway (U. S. 6), the 28th Division Highway (U. S. 19), the Yellowstone Trail (U. S. 20), and the William Flinn Highway (Pa. 8) traverse the county. Erie is Pennsylvania's great lake port to the "inland seas" and handles a tremendous tonnage annually.

Topography

The surface of the county is marked by a low ridge or divide running parallel to Lake Erie some eight or ten miles inland. The most conspicuous geographic feature is the triangle which, reaching north of the New York boundary line along the forty-second degree of latitude, gives Pennsylvania a frontage of about 50 miles on lake Erie. To the French it was known as Presqu'isle, so-called because of the interesting peninsula which stretches out into the lake and almost forms an island.

District Game Protectors

Clair W. Dinger, Box 385, Albion, has jurisdiction over Springfield, Conneaut, Elk Creek, Girard, Fairview, Franklin and McKean townships.

Clifford L. Ruth, 2023 Wagner Ave., Erie, has jurisdiction over Mill Creek, Summit, Greene, Venango, Greenfield, Northeast, Harbor Creek and Erie townships.

Elmer D. Simpson, 63 South Street, Union City, has jurisdiction over Waterford, Amity, Union, Leboeuf and Washington townships.

Fish Wardens

Bert Euliano, 540 W. 3rd Street, Erie.

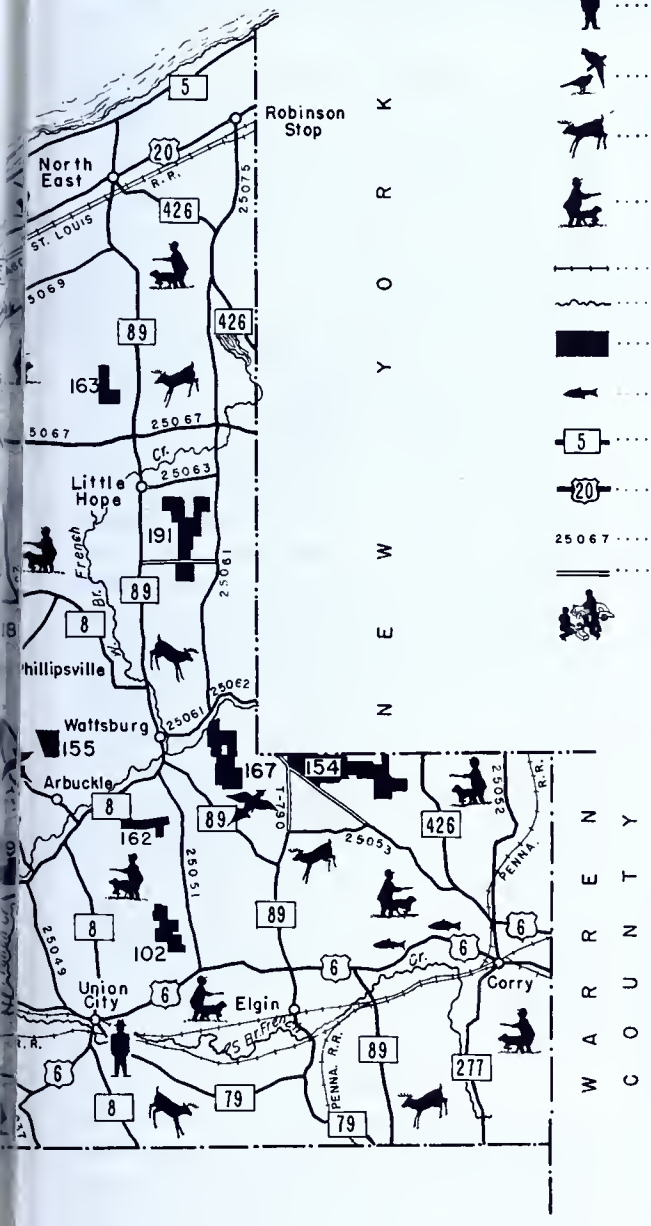
District Foresters

A. H. Vogler, 201 Pennsylvania Ave., Warren.

Historic

The most important event in Erie County history was the building of Commodore Perry's fleet of nine vessels between February and August, 1813, and the subsequent Battle of Lake Erie with the British on Septem-


Prevent Forest Fires and Save Game
L A K E E R I E
ERIE
Fairview
North Girard
Girard
Sterrettania
Middlebora
Hammett
EastSpringfield
West Springfield
Platea
Franklin Center
McLane
Waterford
Cranesville
Albion
Laverty
Edinboro
Conneaut Cr.
Elk Cr.
Little Elk Cr.
Temple Cr.
French Cr.
Simmile Cr.
N.Y. CENTRAL R.R.
CHICAGO & ST. LOUIS R.R.
B. & L.E. R.R.
PENNA. R.R.
O H I O
C R A W F O R D C O



···KEY···

- County Seat.
- Farm-Game Project. (Open to hunting.)
- Game Protector's Headquarters.
- Game Propagation Area.
- Deer Hunting.
- Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream.
- State Game Land.
- State Fish Hatchery.
- 5 Pennsylvania Route Number.
- 20 U.S. Highway Route Number.
- 25067 Legislative Route Number.
- Township Route. (T-790)
- State Park.

PENNSYLVANIA
GAME COMMISSION

ERIE COUNTY

PENNSYLVANIA

1 0 1 2
Scale in miles

L.A.M.

ber 10th. Every school boy knows Perry's famous report of that battle: "We have met the enemy and they are ours." His flagship, The Niagara, has been recently reconstructed and is one of the historic shrines on Presque Isle peninsula.

Industry

Principal classes of manufacturing industry are metals and metal products, food and kindred products, leather and rubber goods, paper and printing. Chief products are electrical machinery, apparatus and supplies; machinery and parts; stationary; meters; iron and steel forgings; hardware and specialities; aircraft and parts; toys and games: and rubber goods.

Agriculture

Erie County is well adapted for agriculture, ranking first in the State in the value of grapes and cherries. The county is also well known for the growing of corn, hay, potatoes, appels, peaches and cabbage.

Recreation—Hunting

Eric County is noted for its fine waterfowl hunting, the shores of Lake Erie and several lakes offering excellent gunning sites. The county also offers good small game hunting and has a sizeable deer and bear kill each year. Several tracts of State Game Lands are located here—A portion of Number 101, near Tracy; Number 102, comprising 324 acres, near Union City; Number 109, comprising 1442 acres near Waterford; Number 154, comprising 1196 acres near Corry; Number 155, comprising 224 acres near Lowville; Number 161, comprising 234 acres near Waterford; Number 162, comprising 206 acres near Lowville; Number 163, comprising 183 acres near Colt Station; Number 167, comprising 568 acres near Lowville; Number 190, comprising 326 acres near Union City; Number 191, comprising 706 acres near Colt Station; and Number 192, comprising 321 acres near Edinboro. Special Dog Training Preserve Number 5 is located on State Game Lands Number 109. It comprises 145 acres and is open to the public for training of bird dogs and field trials. The area is also open to deer hunting but is closed to small game or bear hunting.

Recreation—Fishing

Fishable waters (name of stream, fish stocked, location and length of stocked waters) include: Bear Run, brook trout, Fairview, 4 mi.; Beaverdam Run, brook & rainbow trout, Beaverdam, 4 mi.; Black Creek, brook trout, Waterford, 4 mi.; Conneautee Creek, brown & rainbow trout, Edinboro, 4 mi.; Little Conneautee Creek, brown & rainbow trout, Edinboro, 3 mi.; Darrow Brook, brook trout, Wattsburg, 3 mi.; S. Br. French Creek, brown & rainbow trout, Corry, 5 mi.; Hatch Hollow Run, brook trout, Wattsburg, 3 mi.; Pleasant Lake, rainbow trout, Arbuckle, 60 acres; Shaw Run, brook trout, Waterford, 2 mi.; Taylor Run, brook trout, Albion, 3 mi.; Trout Run, brook trout, Fairview, 3 mi.; Vincent Run, brook trout; Union City, 3 mi.; Conneaut Creek, black bass, Albion, 6 mi.; Edinboro Lake, black bass, Edinboro, 240 acres; Erie Lake, black bass, Erie; French Creek, black bass, Mill Village, 3 mi.; S. Br. French Creek, black bass, Union City, 3 mi.; W. Br. French Creek, black bass, Wattsburg, 6 mi.; LeBoeuf Lake, black bass, Waterford, 70 acres.

State Recreation Areas

The Pennsylvania State Park at Erie, comprising 3,200 acres, occupies practically all of Presque Isle Peninsula. Presque Isle Bay lies between the peninsula and the City of Erie. The extensive sand beaches provide the only surf bathing to be found in Pennsylvania. Boating and fishing are popular in the bay and lagoons. Picnicking and nature study facilities are heavily utilized. The Park, which is administered by a Commission, is located on U. S. Route 5.



Commission Sets 1951 Opening Dates

Nimrods who must arrange their hunting vacation periods early will welcome this information on the opening dates of Pennsylvania's 1951 hunting seasons, which were decided at the Game Commission's January 4 meeting at Harrisburg.

The small game season was tentatively set for the full month of November, subject to change only if the spring wildlife census should prove that winter and natural hazards have taken a serious toll of what is now considered adequate seed stock.

The 1951 bear season will open on November 19.

The deer season comes in this year on Monday, December 3.

Details of seasons and bag limits for various kinds of game will be decided at the July meeting of the Commission.

The Pennsylvania Game Commission has returned the red fox to the bounty list. Effective June 1 this year a $4.00 bounty will be paid on red foxes as well as on grays.

In recent years, very few goshawks have been offered for bounty and their effect on Pennsylvania wildlife is presently considered negligible. Therefore, beginning June 1, the payment of bounty on these predacious birds will be discontinued.

Starting then, the bounty payment on any great horned owl, either adult or fledgling, will be $5.00.

The Commission will continue to pay a dollar bounty on each weasel.

Wildlife Can Be Saved Through Man's Efforts

Lean, perilous days are ahead for Pennsylvania's wildlife. Over the western and northcentral counties recent cold weather and record deep snows that came earlier than usual this year drew attention once more to winter hardships wild creatures must endure.

Deep, crusted snow in the western and northern counties may spell doom to the bobwhite quail there if they are not supplied with food at once. Farmers and sportsmen in that sector are urged to search out coveys and to keep the birds they locate supplied with cracked yellow corn during this emergency and throughout the winter.

LEFFLER ELECTED TO HEAD COMMISSION FOR 16th YEAR

At its annual meeting at Harrisburg, January 4, the Pennsylvania Game Commission elected officers for the year 1951.

Ross L. Leffler of Pittsburgh, was drafted by the Commission to again head the game organization. Mr. Leffler, internationally recognized as an outstanding conservationist, has been a Member of the Game Commission since 1927. This year will be Mr. Leffler's 16th year as President.

Robert Lamberton of Franklin, with 16 years as a Commissioner, starts his 10th year as its Vice President.

Thos. D. Frye, Camp Hill, remains as Executive Director and Secretary to the Commission.



Philadelphia Evening Bulletin Photo

Col. Nicholas Biddle, center, former president and for 16 years a member of the Pennsylvania Game Commission, was recently presented a Distinguished Service Citation by the Dr. William H. Moore Memorial Chapter, IWLA, of Philadelphia. William F. B. Koelle, right, chapter president, is shown making the presentation with Justice Grover C. Ladner, left, assisting.

Moving Time For Popular-Unpopular Bunny

The Game Commission recently opened its annual winter rabbit trapping program. Through it probably 40,000 or more cottontails will be removed from Pennsylvania areas where they are considered undesirables, to be released as top quality brood stock in open hunting territory where they are wanted.

Winter is the ideal time to live-trap rabbits from towns, commercial nurseries and other places where they cause damage. Shortage of natural food at that season renders the trap bait more appealing when bunnies are easily taken, unharmed in box traps. It is almost impossible to bring the furred culprits to trap in spring and summer when vegetation to their liking is available.

Bounty Claims Sometimes Result In Penalties

A Pennsylvania bounty claimant is required, under oath, to state when and where he took each bird or animal submitted for bounty payment. Justices of the Peace, Notaries Public and Game Protectors use an official bounty affidavit form on which appears, in large red print, the warning: "Wait! Be sure all statements are correct." Following this, also in red, are shown the fines prescribed for each incorrect killing date or for each bird or animal presented in a false claim.

Even so, the Game Fund receives thousands of dollars in fines every year from persons who have attempted fraudulently to collect bounty on predators.



Toting Trouble

Dear Sir:

In a recent publication of a popular sportsmen's magazine there appeared an article demonstrating by word and picture three methods of toting a deer. Each system depicted the sportsman carrying a deer on his shoulders and back.

I feel that this magazine reaches a multitude of sportsmen throughout this State and the readers of this article, as far as possible, should be warned against the use of these exceedingly dangerous methods.

To carry a deer, vest-like, on one's back or shoulders is flirting with fate. I believe your GAME NEWS might be instrumental in saving a life or two if you advise against this manner of carrying a deer. It might be more fatiguing to drag a deer but you are more likely to make camp by so doing.

Sincerely,
CLAUDE W. SHATTUCK,
District Attorney
Smethport.

Winter Feeding

Dear Sir:

Placing ear corn in the woods for our wildlife can be easy, even in cold weather, yet can accomplish its purpose by following this method:

Secure some binder twine and wire nails, eight or ten penny size. Cut off 30 inches of twine, tie a wire nail six inches from one end of the twine. Then tie another nail six inches from the other end of the twine. Place ears of corn on each nail by shoving the nail point into the soft core of the corn. Then to place the corn in the woods, you simply wrap or twist the twine around a limb or bush, allowing the two ears of corn to hang loosely a few feet from the ground. Deer will not eat or destroy the hanging ear and turkeys can make maximum use of it. The corn can be placed on the nails indoors and everything will be in readiness for your next feeding trip afield. Try it next time you are out for a winter wildlife feeding hike.

Sincerely,
DR. HARRY E. HENRY,
Martinsburg.

Dear Sir:

Well, the deer season is over and the kill was very light. Now I see in the papers that the Game Commission is worrying about the deer starving. Why not publish an article asking every licensed hunter to donate one bale of hay. I think that every hunter who likes to hunt and enjoys the outdoors and wildlife as I do would be more than glad to cooperate. I haven't heard how many licensed hunters we had this year but I do believe there are enough to take care of this situation. Also remind them of the small game; they too will have a hard and cold winter. A few ears of corn and a little scratch grain will help them a lot. I have been doing some deer hunting around my home county—Crawford County—in Summerhill township and every time I went out, I took some feed for the small game. If every hunter did this, we could overcome the starvation which is threatening our wildlife this winter.

Yours truly,
JOHN R. POTTS, JR.,
Conneautville.

Dear Sir:

A sportsman gets a real thrill when he sees wildlife feeding at man-made

feeding stations erected for the time that snow covers natural food. Here is a "homemade" feeder which has worked very well for me. Take an old umbrella, remove the silk cover, and simply place ears of corn on the umbrella ribs, shoving the corn up on the ribs far enough so that they will stay above the snow. The handle of the umbrella is then pushed into the ground to keep the frame upright. If a longer handle is desired, one can be easily fashioned from a wooden rod or a natural bush or tree stem may be trimmed to fit the umbrella head. I also have devised a simple means of supplying wild birds with grit and gravel through the winter by partially burying an old 30 gallon water tank, knocking out both ends, and then building a fire once in awhile in the tank. A load of sand or gravel can be heaped up over the tank and with the warmth from the fire, it doesn't take long to remove any snow or ice which might accumulate over the gravel pile.

Sincerely,
GEORGE GODDARD,
Wyomissing, Pa.

Bouquets

Dear Sir:

I am enclosing my report for deer killed. I was lucky enough to kill a large 10 point buck on the first day of the season. After killing my deer, I saw two more legal bucks and one spike buck in addition to countless does. Let me say that I strongly support your Game Commission in its efforts to get rid of the "buck law." It is a shame the way some of the sportsmen's organization oppose and fight your efforts along this line. If, however, it is necessary to have doe days, I am strongly opposed to having them on the first days of the season. The men in our camp (13 of them) were all in favor of elimination of the "buck law", but they all favored having the anterless season at the end of the regular buck season.

Thank you and your Commission for a very enjoyable week.

Very truly yours,
WALTER M. KELLER,
Forestry Extension Specialist,
Raleigh, North Carolina.

Brickbats

Dear Sir:

You Game Commissioners ought to be ashamed of yourselves, declaring an open season on does when what does were here they killed, bucks and all. Our gang hunted the last two days over thousands of acres and never saw one doe. We are going to post our ground from all hunting. What deer were left, the spotlighters got. If you would have a warden in here, he could catch enough spotlighters to pay his salary for one year. We have nothing to hunt. The red foxes have cleaned up all the small game and no one will hunt them for there is no bounty. There has got to be something done about it.

Yours truly,
E. M. GOSHAM,
Shade Gap, Pa.

Setting a Season

Dear Sir:

I'd like to give you my ideas on the small game season. Fifty years ago I started to go out hunting and what a pleasure it was to hunt in those days. Now small game seems to be getting more scarce every year, mostly due to the fact that the automobile is killing more game than anything else the past 10 years. What I would like to see is that the small game season would be opened not before the 15th of November and closed on the last day of November. The small game would mature better and, also, the weather is more favorable for hunting a little later.

Yours truly,
FRANCIS W. STAUFFER,
East Greenville, Pa.



By THOMAS A. FORBES

The Bow as a Modern Hunting Weapon

MODERN Archery as it is known today was established toward the end of the 18th century by the formation of the Royal Toxophilite Society of London. The Grand National Meeting which determines the Championship of England was first held in 1844.

Organized archery on the English pattern was introduced in the United States in 1828 by the formation of the United Bowman of Philadelphia, who shot regularly in that city for thirty years prior to the Civil War and whose trophies are on display with the Pennsylvania Historical Society.

In 1878 the National Archery Association of the United States was formed. This is the ruling body for American Archers. The 66th Annual Championship Tournament of the N.A.A., as it is commonly called, was held at Lancaster, Pennsylvania, in August 1950. The present National Target Champion is Stan Overby of Inglewood, California.

The origin of the bow is lost in the mists of antiquity. Excellent drawings of archers are found in the Palaeolithic carvings at Castellón, Spain, and flint arrow heads have been found which date back, according to anthropologists, from 25,000 to 50,000 years.

Bows until quite recently were generally made of wood, but Asia, from very early times, had a composite bow of horn, wood and sinew, which was used by the great military nations, such as the Assyrians, Turks, and Chinese.

English speaking peoples are particularly interested in the wooden, six foot long bow which seems to have been developed by the Scandinavian races and carried by them into England at an early date.

William the Conqueror won the battle of Hastings in the year 1066 largely through the Norman Archers, who shot high in the air and dropped their arrows behind the English wall of shields. Harold, the English King, was shot through the eye by an arrow

A NEW GAME NEWS FEATURE

With this issue, "Game News" starts a new series of regular monthly columns on archery. The articles, edited by Thomas A. Forbes of Camp Hill, are designed to provide factual information on this "new-old" sport of hunting with bow and arrow. Mr. Forbes has wide hunting experience, both with gun and bow, and is presently a Director of the Pennsylvania State Archery Association.

and killed. Military archery reached its highest development in the Hundred Years War and in the War of the Roses, where it was the deciding factor at Crecy, Porters, and Agincourt in France, and, to a great extent, on several battle-fields in England.

With the advent of firearms the use of the bow in English warfare rapidly declined although it was enjoyed widely as a sport during the middle ages. The Scots today compete for a silver arrow dated 1603.

Primitive peoples of all countries except Australia have the bow and it was used as a military and hunting weapon. The American Indian used the bow as his chief weapon, but contrary to public belief, his skill was not as great as the writers of fiction would have us believe. Modern archery tackle is far superior to that used by the Indians and contests between Indians and white men leave no doubt as to the superiority of the white man in the use of the modern bow. The Indian depended on his skill in stalking to secure game and his kills were made at short distances. Indians of the western plains killed buffalo with the bow and arrow by riding their ponies alongside a fleeing buffalo and discharging their arrows at short range.

Following World War I the late Saxton T. Pope demonstrated that a skilled hunter armed with a medieval broad-headed arrow and a yew bow was able to kill practically every type of game animal in North America including the Kodiak and Grizzly bears and mountain sheep.

Archers may be classified loosely in two general groups: Target and Field Archers. The former shoot in a manner similar to that used on the rifle range with a Field Captain to govern the shoot. They shoot at standard targets of spirally sewn

Field archers shoot in open country at random targets set up at unknown distances, making every effort to closely simulate actual bow hunting conditions. Even field archery targets are made to resemble various game animals.

Hal Harrison Photo



straw, covered with a face divided into a central disc, 9 3/5 inches in diameter, called the gold, and four concentric rings, each 4 4/5 inches in width; painted respectively toward the border red, pale blue, black, and white. Target values are: gold, 9; red, 7; blue, 5; black, 3 and white, 1. Six arrows are shot consecutively by each archer and a possible is a total of 54. After each round of six arrows, known to archers as an End, the archers advance to the target and record the score. Five ends constitute a round. Each round is shot at a prescribed distance. The American round which is generally shot in competition in this country consists of three rounds; one each at 40, 50 and 60 yards. Championship matches generally include the York round which consists of 72 arrows at 100 yards, 48 at 80 yards, and 24 at 60 yards. At the Annual Championship Tournament held at Lancaster this year, the men's champion shot a York round score of 893, scoring 139 hits out of a possible 144 on the target.

Field Archers, who constitute the second general group, shoot in open country familiar to the upland game hunter. They shoot at random targets set up at unknown distances. This type of archery more closely resembles the method used by the bow hunter in search of game.

Generally speaking each group of archers uses a distinct style adapted to the kind of shooting, comparable roughly to the marksman shooting on a rifle range and the upland game hunter who tramps the fields with a shotgun shooting at targets of opportunity. As with firearms users so it is with archers there is no fixed line of demarkation between groups and the individual archer will participate in both target and field shoots.

Archery clubs are located in various communities throughout the state and the coordinating body is the Pennsylvania State Archery Association. The principle duty of the State Association is to schedule tournaments between clubs and to conduct the Annual Championship Tournaments. The Philadelphia and Pittsburgh Clubs have ranges set apart solely for the use of archers, the former at Cedar Grove in Fairmont Park and the latter in North Park. Range facilities and targets are generally owned by the clubs. The individual archer like the riflemen owns his own equipment which is just as varied and adapted to the individuals needs as that of the rifle enthusiast.

Whereas the rising cost of firearms and ammunition have placed a considerable financial burden on the user of firearms, the opposite is true of the archer, who can, if he chooses, make his own equipment or at a reasonable price purchase excellent equipment from any of a number of manufacturers of archery tackle.

Subsequent articles will treat in detail the subjects of archery tackle and the technique of acquiring proficiency with the bow and arrow and we will explore the possibilities and sport of hunting game in Pennsylvania with the bow.

. . . *The End*

PLANTING AIDS WILDLIFE AND FARMERS

Over 960,000 seedlings of various types were distributed to Farm-Game Project cooperators by the Game Commission during the Commission's last fiscal year. In addition, more than 40,000 seedlings were planted on cooperators' farms by Game Commission workmen specially assigned to do food and cover improvement work for game on these projects.

During that year, seed distributed to project farmers to provide food for wildlife and retard erosion included: 1,326 pounds of lespedeza; 72,015 pounds of rye grass; 24 bushels of buckwheat; and 26 bushels of soybeans.

PENNSYLVANIA'S WILDLIFE



(Continued from January Issue)

CHAPTER VII

Four Major Strides Forward

THERE were many joyous occasions for the Commission—momentous victories and big strides ahead which helped to counter-balance all the difficulties. Nevertheless, each step forward had to be made by overcoming the inertia of the general hunting public, casting off the dragging hands of active opponents and fighting all our royal battles.

Four major achievements of particular importance helped to put Pennsylvania in conservation's top ranks—the passage of the "Buck Law," the hunters' license law, the game refuge system and the purchase of public hunting lands. How these things came about and their results is an interesting story in the history of the Commission's achievements.

Pennsylvania Gets A "Buck Law"

Because the graceful whitetailed deer was almost extinct by 1890, it received particular attention thereafter. As early as 1895, James H. Worden, who later became President of the Board of Game Commissioners, told members of the Pennsylvania State Sportsmen at a Harrisburg meeting: "If a law restricting the killing of our deer to one to a man, and that deer a buck, were enforced in this state for five years, I am satisfied that our forests would abound most plentifully with this gamy animal."

One of the Commission's first acts was to have a law passed in 1897 forbidding the killing of a deer at salt licks, or when taking refuge in water, forbidding the sale of deer killed in the State and outlawing hunting deer with hounds. This latter measure stopped the running of the whitetails by trained deer hounds, but hunters evaded it by allowing bird or pet dogs to scare up deer; consequently all dogs were barred from chasing deer by a legislative act passed in 1905.

The advisability of protecting does was long recognized as a way to restore deer, but the bill that was to accomplish this desirable end was put through primarily as a safety measure. The Legislature thought that a law making it necessary to identify the sex of a deer would protect human life. Hunting accidents were a problem then as well as now.

The conservationists didn't care *why* it was passed, they were pleased because it *was* passed. This was the Act of April 15, 1907 . . . which is better known to everyone as Pennsylvania's famous "Buck Law."

Prior to its passage, bucks, does and fawns were killed indiscriminately, the only restrictions being the closed season and a limit of two deer, big or little, to each hunter. The "Buck Law" provided that only one deer might be killed by one person in one year, "which in every instance shall be a deer with horns."

There was not too much opposition to this measure, probably because there weren't enough deer left to interest a large number of hunters in any laws protecting them. Peculiarly, Dr. Kalbfus was one of the dissenters. He opposed the Buck Law

because he maintained that, in rough country, it would be impossible to tell the sex of a deer until after it had been killed. This argument was used against him for it was pointed out that this was all the more reason for passing this law since it would be beneficial in preventing the reckless hunter from firing at any moving object; therefore it would be a safety measure. His opposition boomeranged and was in the main most instrumental in obtaining passage of the law through the Legislature.

The law governing the antler's size changed several times since it was first placed on the statute books. In 1909 it was revised to make legal those males with "horns visible above the hair." In 1913, a legal buck deer was one having antlers "two inches above the hair." Then in 1921 the antlers had to be at least four inches above the top of the skull. In 1923, only male deer with two or more points to one antler, or with antlers six inches long without points were legal. The six-inch provision was removed in 1925 and since then a legal male deer in buck season is one with two or more points to one antler.

Not more than 300 male deer were killed in 1907, the year the buck law was established. In 1939, the all-time peak for male deer was the staggering total of 49,106. Many other factors helped to bring about this tremendous change, but the "Buck Law" was first and most directly responsible.

Fireworks Produce Hunters' License Law

No other game administration measure, except possibly the first attempts to create a doe season, produced so much bitterness, acrimonious debate, personal enmities and aroused the hunters as did the resident hunters' license law. The act was passed in 1913 and signed immediately by Governor John K. Tener. That first year, 305,028 licenses were sold at the $1 fee and, for the first time in its existence, the Commission had sufficient funds with which to work because the license money went into a separate fund to be used only for Commission activities.

Other States had license laws, but Pennsylvania probably was the first to turn over all license money for game administration. The last appropriation from the State's general revenue was for $97,000, a big advance over the $800 award in 1897 for a two-year period, but still somewhat like charity to the Commission. The first license year plunked $282,981 (the income from the 305,028 licenses after issuing fees were deducted) into the Commission's lap and the hunters became self-supporting. They were no longer orphans buffeted by the winds of political storms.

Delving through the old records, yellowed by time, uncovers some very interesting historical facts about this law and how the Commission acquired an independent income.

It is a matter of record that even before the Commission was formed the need for a license fee to produce revenue was recognized by many of the State's leading sportsmen, but they didn't get very far with their first efforts. True, in 1901 Pennsylvania established a non-resident license fee of $10, but this brought in little money and advocates of the resident license felt that each hunter should be "taxed" a small sum to support his sport.

Even the Commission, dominated by the legislators from whom they received their appropriation, generally was lukewarm and the necessity for knuckling down to get a few appropriated dollars led to the resignation in 1905 of President Kennedy and James Denny. The unsalaried Commissioners took more abuse than the average paid public servants get. Kennedy had served unselfishly from the beginning of the Commission but finally the unjust criticism from enemies was too much even for him, and he quit in disgust. With the



FGC Photo by Trexler

Pennsylvania was probably the first state to turn over all hunting license money for wildlife management. But no other game administration measure produced so much debate as did the resident hunters' license law, passed in 1913. Shown here are license tags issued through the years since.

resignation of Kennedy, John M. Phillips was drafted to serve in his place. Unfortunately, the unsalaried Commissioners of today must still cope with the same situation, so far as unjust criticisms are concerned and lack of appreciation for their selfless service.

The political leaders were very much against the Hunters' License Law because of a strong lobby formed by the organized market hunters and other game law violators. Even Senator Boies Penrose, who was a sportsman as well as a statesman, opposed it when he succeeded to political leadership in Pennsylvania on the death of Matt Quay in 1904. His argument was the same as Quay's: Such a law could help upset the State's politics.

However, the fight was carried on against the advice and wishes of Penrose and most politicians. Supporting the proposed license law were the Pennsylvania State Sportsmen's Association, the Lewis and Clark Big Game Club of Pittsburgh, the Pennsylvania Fish and Game Protective Association of Philadelphia, the United Sportsmen of Pennsylvania at Scranton, smaller clubs and many individuals.

Most violent opposition came from the Hunters' and Anglers' Protective Association, which maintained headquarters in Harrisburg. This organization, claiming 75,000 members, was banded together not for the protection and propagation of game but to protect themselves from the game laws and to oppose the work of the Game Commission.

Members of this organization not only violently objected to the proposed hunter's license law but opposed the buck law and all other constructive measures the sportsmen advocated. Headed by Sam Garland, who's hatred of the Commission and

opposition to almost anything it proposed, grew from the fact that year after year his application for the job of executive secretary (which, by this time paid a salary) was rejected. In order to assist in carrying on their destructive work they issued a magazine devoted to vituperation, slander and false statements concerning the motives and work of the Game Commission making John Phillips their chief target. This magazine was known as "Mount and Stream."

To counteract this vicious magazine, Phillips and his friends established a magazine called "In the Open." It was published in Pittsburgh and devoted to a frank discussion of the problems of constructive conservation with such authorities as President Theodore Roosevelt, Dr. Hornaday, George Shiras III, Howard Eaton and many others of equal prominence and integrity as contributors. It became recognized as the leading conservation magazine in the country. Public reaction against Garland's faction set in. The very nature of Garland's vicious attacks labelled them as untrue in view of the integrity of the men he vilified.

Unfortunately, the pro-license men had to fight other persons, too. In the 1906 Commission report to the Governor, the need for such a license was stated; but President Worden refused to sign it, adding instead a postscript opposing such a "personal tax." Dr. Kalbfus opposed the first hunters' license bill ever filed with the Legislature and was instrumental in having it killed in a House Committee. For six consecutive sessions of the Legislature E. K. Morse presented this same bill and for six consecutive sessions Dr. Kalbfus fought it vigorously. Morse became quite bitter about the whole affair.

Governor John K. Tener, lifelong friend of Phillips, took office in 1912 and promised to help get the license law passed. Another ace in the sleeve was a letter to Mr. Phillips from Theodore Roosevelt strongly recommending the license law to every hunter. Colonel Roosevelt was extremely popular in Pennsylvania and was respected among gunners as a hunter of great ability.

The letter was copied and distributed throughout the state in 1913 just previous to its reintroduction to the Legislature. It is credited with having much to do with the final victory, for the bill passed both houses and Governor Tener signed it immediately. After many bitter disappointments, E. K. Morse finally had the satisfaction of seeing the resident hunter's license law placed on the statute books.

Pennsylvania finally had what no other state possessed—revenue from the hunters themselves to be used for no other purpose except to further the hunters' sports. It was a great day in the annals of conservation.

. . . *To Be Continued*

WILD TURKEY SURVIVAL MAY DEPEND ON SUPPLEMENTAL FOOD

Beyond the releasing of hardy wild turkey stock the winter feeding of these magnificent birds has, probably more than anything else, brought about the widespread increase of gobblers over much of Pennsylvania.

Under severe winter conditions, grouse will subsist on tree buds, but turkeys require nuts, berries and seeds found on the forest floor. When deep snow or icy crust covers their natural food for days, wild turkeys suffer from malnutrition and may eventually die.

Yellow ear corn has been found to be the most beneficial winter turkey food. It supplies the cold weather essentials, both nourishment and body heat. It is easily handled, too, with less loss, once it is placed in the woods.

Some sportsmen who like to observe conditions as they tramp about prefer to carry corn in packsacks or packbaskets, distributing the ears as they go, under protective covering or just above the snow line on sharpened stakes.





Outdoor Kids

By HAL H. HARRISON

LAST summer, a catbird built its nest in the ninebark shrub. Billy and Jane found it when it held four deep bluish-green eggs. Later, they saw the little catbirds fly away.

Now, on a Sunday afternoon in February, the children trudged through the snow to the ninebark to collect the abandoned nest. They had just started their collection of old nests, and they wanted to add the catbird to the robin, red-eyed vireo, cardinal, phoebe and wood thrush nests they had assembled and labeled on a shelf in the basement of their home.

The nest was there when they arrived, all right, but something had happened to it. It had taken on a new shape. Instead of being a half-ball with the center flattened, the nest was now domed over to the top and was closed entirely except for a tiny hole in the side.

"I don't think we had better take that nest, Billy," Jane declared, "but I would like to know what happened to it."

Billy tapped on the side of the ball of twigs and grasses. At first, he did not get an answer. But when he continued to tap, harder and harder, suddenly a fawn-colored mouse with big black eyes, a long face and thin shell-like ears peered out at him. It brushed its twitching whiskers with its white front feet. That told the children who was occupying the catbird's nest . . . a white-footed mouse or deer mouse, known to the scientists as *peromyscus.*

Once before, the children had seen a white-foot. It was in the spring when they were cleaning bluebird houses at Pleasant Hill Farm. One box was filled to the top with leaves and grasses. When Billy started to pull out this lining, he discovered a nest of little white-footed mice . . . five of them, still blind but covered with soft gray fur. The mother mouse was in the box too, huddled in a corner, trembling with fear.

For such a tiny creature, mother white-foot bravely guards her home against intruders. In the face of grave danger, she often moves her little ones to a safer place, carrying them by the napes of their necks.

Our Pennsylvania white-foot is one of 68 different kinds of deer mice which live in this country. It takes about 21 of them to weigh a pound.

Every year, a pair of white-foots will produce several litters of four to six babies each. It is exceptionally clean about itself and its home. It can sing too, uttering a tiny, wiry trill, and to signal others of its kind, it stamps its feet and vibrates its toes.

The white-foot does not hibernate, but it does store large quantities of nuts and grains in the fall. It is during this time that it adapts birds' nests into storehouses for food and into sleeping quarters for cold winter days.

On clear nights, the mice scamper across fields and woods, leaving footprints and long tail marks on the surface of the snow. When the weather is bad, they sleep snug and warm in their cozy homes.

Sometimes, a white-foot will enter a house during the winter. Then it may cause the same damage as a house mouse. Its natural home, however, is out of doors. Here it does very little if any damage. Its relative, the meadow mouse, is the destructive rodent in orchards and fields.

Of all our wild mice, the white-foot makes the most interesting pet. It is easily tamed and can be handled without fear. These little rodents should not be confused or compared with the obnoxious house mouse.

Deer Season's Tallest Story

Deputy Stewart Decker, New Florence, Pa., reports, with reservations, that two men saw what they thought was a limb of a tree swinging in 2 inch snow while hunting in the Ross Mt. Park area on December 4, 1950. The dark object turned out to be a large blacksnake. The men said the reptile's mouth was full of ice and snow. They surmised that this possibly came about when the snake tried to chew its way back into its hiding place.

CORRECTION, PLEASE

On the back page of the special conservation education pamphlet, "Farm Youth and Wildlife," inserted in the January issue, the subscription price for "Game News" was listed at $.50 per year. This subscription rate applies only to organized sportsmen's clubs, Future Farmers of America, 4-H Clubs, Boy Scouts and other youth groups, when such subscriptions are submitted in lots of 10 or more. The regular subscription price of $1.00 per year applies in all other cases.—The Editor.

Hunting License Revenue Climbs

Hunting license sales for the fiscal year ending June 30, 1950 broke all previous records for revenue received by the 48 States but there was a slight drop in the number of licenses sold, according to a recent announcement by Secretary of the Interior Oscar L. Chapman. Albert M. Day, Director of the U. S. Fish and Wildlife Service, reported to Secretary Chapman that the country's hunters paid $37,641,049 for 12,626,539 licenses during the 1949-1950 hunting seasons. The number of license sales dropped 132,159 below the 1948-49 total of 12,758,698 while fees rose $2,674,362 over the previous year's record of $34,966,687.

In the "big ten" in license sales Pennsylvania ranked second with a reported issue of 834,091 licenses, thus holding the same position as in the past year. Michigan headed the list with Pennsylvania, New York, Ohio, Illinois, California, Minnesota, Wisconsin, Washington and Indiana following in that order. In "revenue received", Pennsylvania, with $3,032,326, led, followed by Michigan, Washington, Colorado, New York, California, Oregon, Minnesota, Wisconsin and Missouri.

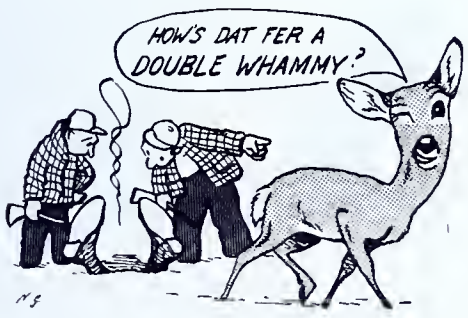


Big Bagged Bruins

SHOHOLA—The bear kill, while below expectations, still was worth talking about. The largest bear of which I have record for the 1950 season was a 345 pound animal killed by Carl Vogt of Shohola. Gilbert Rosenkrans of Greeley also killed a bear over the 300 mark. It appears that Westfall, Shohola and Dingman Townships are the best bear centers in this district this year.—District Game Protector John Lohman, Milford.

Doe Fever

HOPEWELL—In Blair County on the first day of the 1950 antlerless season several men from Hopewell were hunting. They had a boy with them who had never killed a deer and, seeing a legal animal, they shouted to him to kill it. He raised his gun but instead of the doe dropping as expected, the young hunter fell to the ground, a victim of "doe fever." He had completely passed out. His companions carried him part way out of the woods and had to help him walk after he regained consciousness. He was ghastly white from his experience. And the buck hunters tell us there is no thrill in killing a doe!—District Game Protector John Hiller, Saxton.



No Ducking Crows

READING—On Sunday, December 31st, I decided to take a look at the ducks wintering on Lake Ontelaunee near Reading. I found a concentration of about a thousand black ducks, with a few mallards mixed in, sitting on the ice. The lake appeared to be entirely frozen over with few, if any, open spots. At about 4:00 p. m. a tremendous flock of crows flying in to roost appeared and almost immediately settled down and around the ducks. My interest aroused, I decided to watch the proceedings and was amazed to see the crows attack the ducks in an effort to break up the concentration. The crows attacked repeatedly by flying low over the ducks and then, suddenly dropped onto their backs and pecked at their heads. I'm convinced that the strategy was to scatter the ducks so that they could get any cripples or weakened waterfowl. The attack continued for about an hour until almost all the ducks left the ice and the crows went on to roost. Though using my binoculars at a distance of about 200 yards I could not see any injured ducks unless the small group that remained might have contained a few. Quite often ducks are injured or killed by flying into electric and other wires around this lake and the crows probably realized this fact. This new experience with the crow convinced me that he is more destructive to all species of wildlife than we suspect.—Mert J. Golden, Supervisor, Farm-Game Cooperative Section, Harrisburg.



Crowing In the Can

TITUSVILLE — While working around the barn on the second day of the past small game season, the son of one of the cooperators on Farm Game Project 77 heard a ringneck cock crowing not far away. With gun in hand the boy took off in the direction of the crowing bird. It lead him to an area that at one time had been the site of several buildings, long since abandoned and now covered with quite a growth of briars. After making a diligent search of the area and not finding the bird or seeing it escape over surrounding, closely cropped fields, the hunter finally decided to get right down in what used to be the cellar of the house and start turning things upside down. It was while doing this that he ran across an old milk can lying on its side. Stooping down to peer into the can, the hunter was most surprised to see his bird, inside the can, looking right back at him.—District Game Protector Sam Shade, Titusville.

'Tain't Funny, Bucko

YOUNGSVILLE—During the recent antlerless season, someone thought they were having a lot of fun by hauling a mounted deer head around in the trunk of their car. The horns and part of the head were left sticking out of the trunk. One of my Deputies received reports from various hunters in the area that they had seen this "buck" being carried about but they all thought the driver was probably a Game Protector so they didn't bother to get the car's license number. The Deputy spent a lot of time trying to locate this car but was unsuccessful. The next day I found out that it all was just a joke. Somebody may have had a lot of fun with this stunt but if he had realized the time wasted by me and the Deputy in trying to track down this apparently illegal deer, he might have thought twice about it. It also brings out the point that the average hunter does not make very much of an effort in helping to trace down game law violations. In this case, if only one of the many hunters that saw this deer had taken the license number of the car, the rest would have been comparatively easy. —District Game Protector Bill Overturf, Youngsville.

Pop Goes the Weasel

STRASBURG—During November I saw something that was completely new to me. While standing in a squirrel woods one evening, I saw what appeared to be two squirrels coming toward me through the trees. The one in the rear looked like a red squirrel and the leading animal a gray squirrel. The larger gray seemed to be frightened and soon came down to the ground. Much to my surprise I discovered that what I had thought to be a red squirrel was actually a weasel.—District Game Protector John Eicholtz, Strasburg.





Training Qualifications

By HERBERT KENDRICK

SINCERE love for a good dog and a persistent urge to hunt may be classed as ample qualifications for any person to undertake the training and handling of his own gun dog. Of course we have all heard many times that, "In order to train a dog, you must know more than the dog," and I feel that this should be true in any case of teacher and pupil. A trainer or teacher in order to receive utmost respect and maximum performance, must possess a thorough knowledge of the subject, be kind and patient, and be able to stay on the job long enough to complete the course of education.

A dog's devotion knows no bounds and he will do everything in his power to please his master, but his comprehension is limited; therefore, the very first step in dog training is to find a natural way to communicate to him the things you want him to do. To be a good trainer, you must find a way to make him understand you and never allow him to disobey your commands once you are sure he knows what you expect of him.

A successful trainer thoroughly understands what the finished dog should be and goes about his work in a manner most suited to the temperament and personality of the individual prospect. If the dog is naturally timid, cautious, or shy, the instructor proceeds slowly and carefully and urges the pupil to develop range, drive and confidence in himself. Perhaps another youngster is stubborn, disobedient and too independent, then the trainer may sometimes use forceful measures to properly educate the animal. The destination may be the same, yet there are many routes that lead to it.

The talented trainer progresses rapidly if he makes a companion of his hunting dog and constant association minimizes many training problems. The companionable relationship of the dog with his master is most helpful at a time when the dog's enthusiastic instinctive urge is at rest. His mind is receptive and the extreme enjoyment he receives from this close association leads him to seek and acquire knowledge. At such times, many phases of training can be taught. At work in the field, the dog is interested in following his hunting instincts and any attempt to teach obedience or yard tricks will seriously conflict with his hunting interest and may lead to mechanical performances which surely curtail his usefulness as a finder of game.

No trainer can be successful unless he considers the health, diet and care of his dogs. Balanced diets, regular and careful feeding, clean fresh water, daily grooming, sufficient exercise and comfortable housing, give a dog a sense of contentment and enables him to withstand the gruelling pace of tough training and work afield. If he is kept in good condition, he will repay you with loyalty, companionship, devotion and furnish you many thrilling experiences in the woods and fields.

The person who aspires to train his own dog for the first time will find several good books now available, containing systems of training that have proven successful in thousands of instances. These systems have been perfected by the writers

and used by noted professionals, who train for the gun and field trials. Horace Lytle's, "How to Train Your Bird Dog" is excellent for the novice as well as the professional. William F. Brown's, "How to Train Hunting Dogs" is also a fine manual for a dog trainer.

With one of these books, an average individual can successfully train his dog to his own specifications and satisfaction, provided he can spare the time, make a few sacrifices, concentrate, rigidly control his temper and stay with the task until it is completed. Needless to say, he will be confronted with many problems, but if he will be patient and kind to the dog, study his normal reactions and desires, and make a sincere effort to intelligently convey his desires to his pupil, the perplexing situations will be replaced by consistent accomplishments.

If you do not have time enough to spend with your dog in order to do a first class training job, please do not attempt it, because neither you nor the dog will have a chance. Professional trainers will take the young prospect and keep him long enough to make a finished dog for a reasonable fee. However, I feel that the gunner who hunts each year and who has never trained a dog of his own has missed a part of the sport of hunting that is very important, indeed. To take a little pup and care for him, bring him up to yard training days, through the field stage and on into a superlative performer is a worthwhile accomplishment that no hunter should miss.

Dogs may love many masters but a pup is fortunate to belong to one good sportsman who will do his own training. This set-up makes a better dog and a better man.

SAME DEER PROBLEM IN SEVERAL STATES

These excerpts from a recent Michigan Department of Conservation news bulletin, indicate that Pennsylvania is not the only state having a deer management problem.

"The second consecutive special deer hunting season appears to have been little more than an annoyance to the herd. The conservation department estimates about half as many deer were bagged by 25 percent fewer hunters out in the eight counties involved. Permit holders who got their deer in the general season held earlier, as well as some local antagonism against a one deer season, had some effect on the size of the hunting army.

"Game men estimate there was a starvation loss of about 10,000 of Michigan's one million deer in the last winter season.

"A growing deer herd, overbrowsed range, deer starvation and some reluctance to shoot does are serious game problems in New York, too.

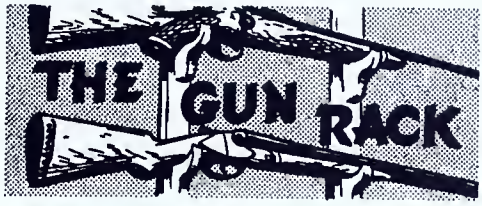
"I. H. Bartlett, Michigan Conservation Department deer specialist reports he was unable to tell New York's organized sportsmen anything new about management woes. He reported that 'deer problems in upstate New York are practically a carbon copy of those in Michigan.

"The Michigan deer expert was told by New York State Conservation Council members that New York has sentimentalists the same as Michigan who would rather let excess deers starve to death on the range than to have does harvested in hunting season.

"New York has a growing herd of 300,000 deer. Food shortage caused by an overbrowsed range is a problem in the Adirondack and Catskill mountain areas. In the rest of the New York deer range, a mounting problem is the herd damage to farm crops.

"Bartlett relates, also, that latest New York game research has evidence that when the quality of deer food decreases because overbrowsing, the fawn production decreases in those areas."

Random Shots



By Ed Shearer

AT this time, when the immediate future of our country and ourselves is clouded, it is somewhat difficult to write in a "shooting as usual" vein. Here in the heart of the Pennsylvania game fields the curtain has rung down on the 1950 hunting seasons and thousands of gun toters of all ages have returned to their homes, leaving the big woods silent and serene.

It has been my pleasure to meet this year, as in past years, a great number of these hunters. And it is significant to note that after days or weeks of handling a gun and shooting, none of these people returned home with any homicidal urge to exterminate their neighbors, either here or abroad. Rather, they had a deep appreciation of peace, love for their homes, a new zest for their work, and pride in their country—a country which has made hunting possible for the average man. These are emotions that could be plainly seen by any apostle of any outlandish creed no matter where spawned.

The same apostle, even if he wore smoked glasses, could not fail to note that these people loved those things to such a degree that they would fight to the last ditch to preserve them, no matter what the odds.

Next year, where we will be shooting, whether or not we will be shooting the same old gun or a strange, new type, what our targets will be—all seem to lie in the hands of a higher power than ours to answer. Whatever the answer, now is a good time to take a look at some of the lavish displays and selections that this bountiful country affords the "average guy". In no field is the American genius for production better exemplified than in the arms and ammunition industry. As Mr. Curt W. Roney, arms sales manager for Remington Arms, puts it: The fellow who fails to find, among the products of American manufacturers, the gun to exactly fill his requirements for hunting on this continent is a mighty hard individual to please.

American made guns and loads are designed to meet the hunter's most exacting desires in his quest for all North American game. Somewhere in the long list of these guns and loads there is at least one combination best suited for use on any particular beast or bird that is legally hunted anywhere in the world.

Very few American sportsmen realize the tremendous variety of guns and loads at their command right here in this country. In sporting rifles they have a choice of bolt, slide, pump, auto-loading and lever actions with the addition of hammer-type, single shot jobs. In shotguns single barrel, double barrel, slide-action repeaters, auto-loaders and over-and-under actions are available with several combinations of bolt action. If the sportsman will take time to investigate the various combinations of barrel types, lengths, borings and grades available on the numerous actions, he will find himself fairly amazed at the resultant figures. For instance, Remington does not make a single shot or double barrel shotgun yet their line contains 792 different combinations, each different in some respect.

The differences may lie in the grade or quality of each gun or in the barrel length or type of barrel boring but they make a specific difference to the customer and each combination

is considered to be a different gun. Remington does not make a rifle for every caliber in its extensive line of sporting ammunition, but this company does offer a group of rifles that afford 153 different combinations.

With one company offering more than 800 combinations of sporting arms and considering how many arms companies we have, the total amount of combinations becomes staggering. Then add to this the multitude of different varieties of loads made by the ammunition companies and you will then begin to realize what it means to live in the United States.

As usual, the new year started off with the normal number of success stories as well as stories of failure afield, often accompanied by some mighty good alibis. And it looks like the hunter's biggest trouble continues to involve proper lead. It still seems that the deer that is moving is giving his would-be collectors the biggest headaches and the most misses. The unfortunate truth is that there are no hard and fast rules that can be laid down to guide the hunter in his shooting. Due to differences between each individual shooter, "one man's meat is another man's poison." About the best that can be done for the average gunner is to present a table of mechanical leads for different calibers with no human element considered.

We hunters have long known of the need for forward allowance on a buck that has made up his mind to "get hence," often painfully so. But few realize the great amount of lead that is required to reduce a running buck to venison, especially if he is a hop, skip and a jump away from you. In a case of this kind most of us shoot our rifles much the same as we do our shotguns—swing on 'em and ahead of 'em and pull when it looks right to the eye. If the picture in our eye is correct, we connect—and often a little far back. If the picture is wrong, we miss. It seems to add up to the fact that the only way to acquire a reasonable amount of skill is to keep shooting at moving targets with the same gun and same load. The individual mind will in time form its own picture of when the sights look right for a hit.

Mechanical lead merely gives us an idea of how much distance must be allowed for either holding ahead or for speed of swing. It can be calculated by the formula: Lead equals speed of the target in feet per second times the time of flight in seconds of your bullet out to the range of target. It is not necessary to do any elaborate feats of calculus, either. You find a satisfactory time of flight by taking the muzzle velocity at a hundred yards of range from any gun catalog. Average the velocity to get the time of flight at the desired range. The real joker seems to be judging the speed of the target.

For example, take a rifle shooting a cartridge in the 3000 ft. per sec. class. You are taking a crossing shot at a buck at 200 yards and the buck is traveling 10 miles per hour. Using this formula your mechanical lead would come very close to 3.5 feet. But suppose the desired venison is vanishing at a rate of 40 miles an hour; then the mechanical lead would increase four times to 14 feet. And finally, suppose the hunter was shooting the old "thutty-thutty" and the buck was thumbing his tail at him from 100 yards out. On a crossing shot the mechanical lead would be about 4.5 feet or one body length on an average sized deer today.

The chief value of these mechanical leads is that they bring clearly to the mind of the average hunter the great amount of lead necessary under some conditions if he wants to sniff the odor of frying venison.

. . . The End

Outdoor Reveries



The Hunger Moon

By JOHN H. DAY

NOW comes another February. The countryman notes the lengthening days and fairly strains at the leash in his eagerness to scent the first elusive traces of the vernal awakening. This is the month of suspense, unpredictable in its broken promises but surely riding down the calendar toward that radiant time when "the buds is all jes' itchin', and the dogwood down the run is bound to bust out laughin' 'fore another week is done".

The February night skies bear further evidence of the passing seasons. Leo the Lion has appeared once again in the east, completing the parade of Winter stars. As the constellation wheels into view, the 9 o'clock observer has little difficulty in visualizing the mighty lion rearing up on his hind legs.

Astronomers have named the bright star at the lion's heart Regulus and call the star at the tip of the imaginary tail Denebola. Veteran sky watchers know the half-circle of stars which form the lion's mane and head as the Sickle, with Regulus in the handle. Leo will ride the sky trails nightly until early Summer, when the lion will slant below the western horizon and be gone from view until the amethyst month calls back again.

The countryman watches the sky show present its February bookings and listens instinctively for the supporting night music. The red fox loses some of his cunning these days, and in the darkness of the early evening reveals his lonesomeness by yapping a love-sick serenade from some open hilltop in his hunting range. There is no mistaking this wild free barking for the deeper tonguing of the neighboring farm dogs.

The big owls of the timberlands also take their music more seriously as the second month moves in. The countryman hears the "eight-hooter" talking to his mate as they journey about looking for a suitable nesting site, or prepare to raise another brood of barred owls in the abandoned crow's nest they have been using for many seasons.

The starlings who make their home about the huge dairy barns across the roadway have had a lot of fun this Winter fooling me with their able mimicry of many of our native songbirds. I heard a meadowlark whistling bravely one recent mild morning and hustled out for a sight of this fellow. He turned out to be a rascally starling, clear in the top of a Carolina poplar, who had the lark's song down pat.

Many of the starlings hereabouts can mimic exactly the warble of the bluebird, and one has taken particular note of the singing of the Baltimore oriole. It is certainly queer to hear the oriole's Summer song pouring from the throat of a grimy upstart starling perched on a chimney top in mid-Winter!

The starling is a rank opportunist. He shares with the obnoxious English sparrows the opprobrius role of feathered fascist. When he found he couldn't drive the bluebirds from the nesting box on the side of the garage, he infiltrated by stuffing his own noisome nest in the crevice at the rear of the box. The bluebirds raised one brood and then left in disgust, unable to stomach this arrogant, boorish neighbor any longer.

The far flung starling legions have smashed their bullying way through all opposition, until they are now firmly entrenched from the seaboard to the Rockies. Harassed city officials have fought them with shotguns, fireworks and poison bait, and still they press onward, overwhelming by sheer weight of numbers.

The local "fascio" has established a rookery on the outskirts of a neighboring town. Here they come during the Fall months by the tens of thousands each evening. It is one of the most impressive sights in Nature to watch these tremendous flocks wheel overhead and then start dropping out of the sky into the roosting area. Countless hordes of the yellow-billed starlings seem to be milling around in the sky in hopeless confusion, yet there is never a sign of collision as each group drifts safely down, clearing the air lanes for the next formation arriving overhead.

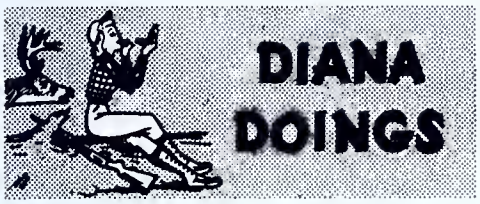
The starling is first of all a business bird. He lets nothing interfere with the important task of keeping his gizzard full. While amusing himself at the antics of the countryman heaving snow down there on the sidewalks, he keeps one eye on the neighboring barnyard. Just let a truckload of litter come trundling from the dairy barns and the poplar trees are soon vacated, as the hoodlums rush in to get the lion's share before the sparrows and the pigeons arrive.

Almost instinctively the countryman seeks the southern slopes as he walks out to take the pulse of the brisk February afternoon. Old Sol plays favorites while swinging north for his date with the vernal equinox. The Winter birds know this, and spend a great portion of their time in the thickets facing South. The fox has also learned this lesson well. It's no use to look for this sly fellow on the "dark" side of the hill. He'll be curled up in the lee of a protective windbreak, picking up his February sun tan.

No matter what the groundhog says, nor how the north winds do blow, the countryman knows that February is a time for planning, for anticipation and for transition. The midnight of the year is past and the approaching sun burns off the bleakness which shrouded the dark days of January. Some time this month the break will come. The redwings will celebrate by the swamps and the pussy willows will suddenly burst their bonds. That's what February is for.

. . . The End.





Sleepy Time Wildlife

By GRACE O. BEACH

THE woodchuck yawned, stretched himself, then crawled into his underground home and went sound asleep. Yawning is contagious you know, so the little jumping mouse, the chipmunk and the bat got the idea, yawned and stretched and they too, went off to bed.

The skunk, the raccoon and the bear followed suit. So the seven sleepy heads of the mammal family are snoozing through the cold winter months—"sleeping the clock around and around." It's a habit with the seven sleepers that is termed hibernation by the scientists. If human beings could acquire this habit many of us would no doubt take full advantage of this ability.

Hibernation is common to many species in the animal kingdom. When the first cold weather forms thin icy fringes on the water's edge, the frog buries himself in the mud and leaves in the bottom of the pond or lake. The toad backs into the ground below the frost line, its horny heels aiding him into his bed below.

Rattlesnakes, copperheads and blacksnakes retire to dens in the mountains. Branches in the woods and fields hold the cocoons of caterpillars all in a state of hibernation. There are others, but none attract the attention or are so interesting as the mammals that have come to be known as the seven sleepers.

The mystery of hibernation still baffles scientists. While they have learned much, there is still a great deal not known about this habit of winter sleeping or the sleepers.

Many theories are advanced on the phenomena, but they do not always agree in principle. On the surface they appear quite reasonable, but when studied for a time, the answers are not so obvious as they seem; neither do they apply to all hibernators.

For instance, all summer, the insectivorous bats have spent their time fattening up on the abundant insect life. With this source of food gone, they must either journey to a more agreeable climate or hibernate. This would seem to indicate that the food supply is the chief reason for hibernation.

That theory doesn't apply to all hibernators. Certainly it can not be considered the cause of the groundhog leading the parade of sleepy heads into retirement. The woodchuck is a vegetarian and during the summer, practically every farm supports several plump fellows. The fall rains and Indian summer brings on fresh growths of vegetation and early October always provides abundant food. In spite of the good food supply you rarely see a groundhog at this time of year. They have gone to bed and are sound asleep. This sleep will last at least four months, sometimes longer.

The jumping mouse has habits quite similar to his cousin, the deer mouse. It would seem reasonable to suppose their winter diet and habits would be the same. When winter approaches, any similarity is purely incidental. The jumping mouse retires to his underground home, his long tail coiled like a spring around his body. In this fashion he proceeds

to snooze and snore through about half the year, while his cousin the deer mouse remains active.

On one fact all observers are agreed. In order to hibernate an animal must be fat. The woodchuck will double its weight, the ground squirrels, jumping mice and all the other sleepers will lay up thick layers of fat just under the skin which protects them from the cold and supplies the nourishment needed during their sleep.

When food is scarce or these animals have for some reason failed to gather a needed quantity of fatty protective coating they will remain active well into the winter. Frequently, they will not become sufficiently cloaked before extreme weather sets in and they die before they are fully prepared for their winter sleep.

During hibernation, the true "Rip Van Winkle" undergoes a complete physiological change. The body temperature drops to that of the surroundings and may even become lower. Winter sleepers are also peculiarly adapted to resist freezing temperatures, the scientists tell us. If their internal body temperature drops to freezing point then the winter sleep ends in death; however, they seem to be able to overcome this problem. When there is a sudden drop in temperature to freezing or lower, they will awaken and so do not lose their life.



The raccoon, skunk and bear although considered as hibernators are not such in the true sense of the meaning. Their sleep is not so torpid and their temperatures do not drop as low as the true sleeper.

The circulation of the hibernator is very slow and sluggish and respiration is greatly retarded. They all have one thing in common, though. They roll up into a ball, the eyes and ears are closed to sight and sound and the feet are brought together with the limbs rigid. Their long winter nap ends with spring which is probably controlled by the upward swing of the temperature.

You can stretch, yawn and take your choice if you want to, but it's not for your editor, who would be afraid of missing something.

Wide Awake and Busy

It's a lot more fun and far more interesting to bundle up good and warm and take a trip into the woods to find out how the other forest families are making out, instead of sleeping the time away.

You stand at the edge of the road and look into the forest at this time of year and it appears completely deserted. At first glance it would seem that all the forest creatures had decided to follow the footsteps of the seven sleepers and were spending their time dreaming of the spring to come.

There is a dead silence reigning everywhere. Not a living thing seems to be moving about. As you stand there looking into the forest fastness, the naked trees seem to shiver slightly against the cold wind. The dry brown leaves still clinging to the trees shimmy to keep warm and rustle like stiff taffeta petticoats. Suddenly, a twig snaps with its weight of frost like a ghost cracking its knuckles for pastime.

From the road the woods looks vast, quiet and lonely, but don't let that fool you. It is teeming with life

if you have eyes to see and know where to look. The forest is filled with wild creatures that do not leave for the south with the first cold blast, nor do they fall asleep to pass the time away. Like the human race they must strive to garner their daily fare and protect themselves against all odds. They must keep house and work for their living summer and winter. Here they are born and here they spend their lifetime old residenters.

Lift up the loose bark of the fallen logs or on trees and peer into crevices. There you will find bugs and insects of all kinds. They have moved into these protected places during the cold months.

The under leaves close to the ground harbor many small creatures. If you carefully part the curtain that protects them you may find yourself looking into the living room of the little spring peeper, well concealed and comfy.

Under the fallen leaves on the ground other creatures busily scurry about, up and down, in and out their traffic lanes seeking their food, visiting with neighbors and tending to the other household duties that fall to their lot.

The ground beneath moves slightly as a mole tunnels his way about. Minks, weasels and mice search for their favorite tidbits or take whatever comes their way.

Squirrels uncover their store of food they have hidden away for the leaner months, scurrying up and down the tree trunks and branches to and from their nest aloft. The fox moves silently and slyly about, hoping to catch some unsuspecting meal afoot.

The deer have gathered together in groups and stay in their own yard in bad weather. When the weather is good they browse farther afield eating twigs, bark and whatever else is available for them. The grouse has moved into sheltered spots or evergreens. He will feed on buds when the weather is very bad and the snow deep. The quail and turkey find it more difficult to get food during this period for they are mostly ground feeders, but they will work busily for what they can find. Rabbits pop out of deep piles of underbush, hollow logs and groundhog holes to find food, then hippity-hop back to their shelter when their appetites are satisfied.

If you sit quietly on a log, there will be many birds all about you where there were none before. Native Pennsylvanians, they live here summer and winter, others move in from the colder north. The little chickadees, and the snow buntings will chatter merrily and flit about busily. You may be lucky enough to see the scarlet flash of the cardinal, or hear his cheery call as he swings on a branch, making a pretty picture silhouetted against the snow or adding a splash of bright color like a brooch pinned on dusky winter dress of the forest.

In the spring and summer all these creatures can readily fend for themselves. The snow and cold weather this winter has made it difficult to get sufficient food. In fact for the next few weeks until the green things again appear are their most difficult period. Food will be their chief problem and their resistance will be at its lowest ebb.

You can help them through this period. Take a trip to the woods armed with food. Cram your pockets with seeds for the birds and carry a sack of corn with you. Distribute it around where some of our wildlife families can find it. The satisfaction, is even greater than when you got that prize trophy when you went out armed with a gun and the trip can be even more interesting and plenty of fun. Try it.

. . . *The End*



Tracking Is Educational

By L. J. KOPP

IT WAS a clear, cold day in December and I was making my way along the snow covered Mahantongo mountain, on the trail of a red fox.

As I made my way through the woods, over logs, past snow covered pine and spruce trees, I saw where the fox passed between two small trees about ten inches apart. At another place the fox walked along on top of a log the full length of the log. His tracks led under small spruce trees where he was probably looking for something to eat.

At various spots, the tracks in the snow told me that his inquisitive nose led him to peek into the end of hollow logs along his route. I was learning about the habit of a fox. Not only that, but I also knew just about how big this particular fox was. Other signs in the snow told me further that it was a male fox.

It had been only two days ago while this snow fall was in progress that I made a fox set under a large spruce tree. Here I was on the trail of a red fox, which according to his trail would take him past my set, approximately one hundred yards to the South. I knew further that the wind was coming in from the North.

Surely, I reasoned, this fox will hit the scent line from my set. My steps quickened. I began to wonder if this fox could be waiting for me in my trap under that large spruce tree.

The dainty imprints of the fox's tracks stood out prominently in this soft white snow as I continued on his trail with high hopes of seeing a red ball of fur, with a long bushy tail hopping around under the spruce tree.

The trail kept on going, almost in a straight line, until finally the fox was directly south, and in line with my set, so far as the direction of the wind was concerned. At this point, the fox made a left turn, after having paused briefly when the scent from my trapsite came to his nostrils, and headed straight for my set.

He walked cautiously, each step seemed to be exactly the same distance apart, when suddenly he came upon the trail of a deer hunter who had passed by the trap within about fifty feet. Here the fox stopped for a moment or two. I can just imagine that red fox standing there, ears perked up as he sniffed the air with head held up high, and casting quick glances at the "man prints" of the deer hunter.

After a few moments pause, he apparently decided it was an ill wind that would blow him no good, should he venture forth any further. And so he made an abrupt right turn, and headed his feet in the direction which he had been going before he hit the scent line from my trap. I continued to follow his trail for several hundred yards, when I decided it would be of no use to follow any further, I stopped, lit a cigarette, and as my eyes followed the straight line of fox tracks stretched out before me, I smiled as I realized how much I appreciated the shrewdness of this red fox.

I turned, and headed in another direction, intent on checking several other traps in the vicinity.

My eyes kept surveying the soft white floor of the woods for tracks, while in my mind I kept thinking

about the red fox which I had just trailed through this winter wonderland. Will he come back tonight? What will he do tonight? were questions running through my mind as I trudged on through the snow.

As usual, early the next morning I set out to check my traps, and as usual I anticipated learning all about what the various woods dwellers had been doing during the night.

Here and there I saw the tracks of rabbits, as they hopped about in search of something to eat. Quite frequently I saw tracks of grey squirrels, and here and there I saw where they had dug into the snow and found a nut, or some other morsel of food. I marveled at their ability to locate such buried nuts in the snow.

I saw the tracks of grouse, ringneck pheasants, crows, 'possum, and even mice mingled among the squirrel and rabbit tracks. Here before me was written the story of the night's activities.

Except for the squeaking noise of the snow under foot, everything was quiet. Yet the tracks in the snow told me that there was more life in the woods than what appeared to be now. I kept moving on for I was looking for something else.

I was on my way to the fox set under the spruce tree. As I walked along, I began to wonder if perhaps the fox had not been out during the night. As I came nearer to my set, I would estimate about three hundred feet from the spruce tree, approaching from below the set, I found what I was looking for. There in front of me, a red fox had crossed over my trail, and from all indications it appeared that he had no intentions of going near the spruce tree, or that he even knew it existed.

I decided to go ahead and check my trap, and then come back and follow this fox track. I continued up the old mountain road leading to the spruce tree, and my trap. I kept peering through the brush in the direction of the tree, and then suddenly I saw a movement under the tree.

Another few steps convinced me that something was doing at my set. I was still about fifty yards from the set, and it was at this point where I always turned to my left so that I could approach the set from below, and not from the side. There before me, following my trail were the tracks of my red fox. The fox followed my trail all the way to the point where I usually stopped and retraced my steps after having made sure the trap was still alright. These tracks continued on in a straight line directly to my set. There I came face to face with the animal which I had trailed and admired for several days previous. It was a large male red fox.

About ten minutes later I was back to where the fox had crossed my trail. I followed it just to be sure that it was the same fox which I had just found in my trap. The trail had all the earmarks of the one which I had followed the day before, and after going on for about a hundred yards, it made a left turn in a wide arc, and continued in almost a straight line to the point where it hit my trail to the trap.

Tracking is not only good exercise, and an enjoyable pastime, but it can be highly educational to the observant wildlife student. When the fields and mountains are covered with snow which squeaks at every step, most people take it as a sign to relax near a warm stove, and discuss the experiences encountered while outdoors during the milder Fall hunting days.

A mountain at this time does not look very inviting to these people; however to the average trapper it is a wonderful place to be.

The fox of course heads the list of animals to trail. This is largely due to the fact that foxes travel farther than most other animals.

While trailing a fox, the observant trapper will learn a great deal about other wildlife, since many tracks of various animals will be seen while

trailing the fox.

Many people have the idea that it is difficult to determine the difference between a fox track and that of a dog.

I recall one time I was out looking for a fox trail during the deer season, when I met a deer hunter. "Where is your gun?" he inquired. I replied that I did not need a gun for what I was looking for, and explained that I was looking for fox signs. Since this hunter had come from the opposite direction, I asked him whether he had seen any fox tracks about. "Don't ask me," he replied, "I don't know what a fox track looks like."

Then there is the fellow who, upon finding what he thinks is a fox track, might come up with the excuse that it could have been a small dog.

There are a number of ways by which an expert trapper can determine whether it is a fox or dog track.

The important thing is to follow the tracks at length, not only a few yards. A dog has a tendency to run hither and dither, while the fox will stick to a more or less straight line of travel. Other signs to be noted are where the tracks pass between two small trees, or some other narrow passage. A dog is not likely to do this. Foxes will often walk along on top of logs, while a dog will not.

At spots where the ground is moist, or bare of snow you will usually find that the fox walked along on the bare spot, while the dog would most likely continue on through the snow. Then too a fox will pass under some obstruction in his path such as the branches of a broken down tree, or the top of a felled tree, whereas a dog will go around it.

There are some trappers who are so well versed in the craft of tracking that they can tell you whether it was a male or female, or at just about what time the animals passed through. He can tell you just about how large or small the animal is. If the fox happens to possess any unusual habits he can tell you that too. Knowing these things is part of a good trapper's work.

Many of these intricate details can only be learned by following fox trails at length, and as many times as possible.

I could take you out into the woods, find a fox track, and tell you exactly how long ago the fox passed by there. After several hours of trailing I could tell you how large the fox is, and whether it was a male or female, and also whether it has any unusual habits.

For example, in order to determine the sex of the fox, you would look for signs of where the animal urinated. In this regard they have the same characteristics as a dog.

However one has to be familiar with tracks and tracking in order to determine the animal's size, unusual habits, whether it was a red or a grey fox, and how long ago the tracks were made.

To learn these things then, would be a good excuse for you to spend many enjoyable days among the snow covered spruce and pine, reading the story of our wildlife, on the soft white floor of our Penns woods.

. . . *The End*

Unlawful to Claim Bounty on Protected Birds

Despite the findings of researchers and ornithologists to the contrary, many hunters still place all hawks and owls in the predator classification. Every year, particularly in the small game hunting season, many beneficial birds—even little screech owls—are killed indiscriminately and are presented for bounty payment. At present, only two birds, the goshawk and the great horned owl, are bountiable.



Winter Feeding

By JOHN F. BLAIR

UP until a few years ago the Pennsylvania Game Commission adhered to the policy of buying from dealers all grain used for winter feeding of game. This meant that the grain all had to be bagged up and hauled or carried to the country and distributed in suitable places where either small or big game would use it. Scratch grain was bought and distributed by the Game Protector to members of Sportsmen's Clubs, boy and girl scouts and other interested groups who would build feeding shelters and keep feed in them. In many instances it worked out very well and many pieces of game were carried thru bad winters that would not have otherwise survived. There were many times, however, where both the grain and effort were wasted because the person doing the feeding did **not** place the grain where it would be protected from the weather and where it would be fully utilized.

About five years ago, I believe at the request of field officers, we were authorized to buy standing grain from the farmer. We can buy any kind of grain that we feel will make good winter food. We have bought plots of wheat, barley, soy beans, sweet corn, buckwheat and yellow corn. We find that best results come from buying yellow corn and the research department of the Game Commission advises us that yellow corn has more food value than any other grain.

In buying the grain in the field we are not limited to any certain amount in each plot but we feel that it is better to buy smaller plots and more of them. This means that, without moving the grain, more different spots can be fed. In the southwest division we have attempted to confine each purchase to approximately ten dollars, which would pay for about fifteen bushels of ear corn at current prices. We try to use good judgment as to where these plots are bought, attempting to get them where they will be fully consumed on the spot. In a few instances we find that it is not being used and with the help of the Food and Cover Corp, farmers or interested sportsmen have either husked the corn and put it in other spots or moved fodder with the unhusked corn in it. We have always felt that by feeding corn in the shock we could "kill two stones with one bird." By placing the corn stalks with the unhusked ears in them around a sapling, kicking the bottom ends back until the ears are 12 or 15 inches from the ground and then wiring the tops fast to the sapling, one of the best kinds of winter feeding station can be built. The fodder provides shelter for both feed and game which eats the corn from the cob as it wants it. One of the greatest values of this kind of feeding shelter is that the game knows the possibilities of a shock of corn long before winter sets in.

There are other suitable ways of feeding ear corn. The main thing to watch is to keep the ears off the ground until the corn is eaten. When the ears are just thrown around on the ground they get wet and mould or rot and lose their food value. A wire basket made of two inch chicken wire, open at the top and fastened to a fence post or dead tree so that the bottom is 8 or 10 inches from the ground is a good way to feed ringnecks, quail and rabbits if the deer don't tear up the basket. Finish-

ing nails (nails with no head) driven around the base of a dead tree will slip easily into the pith of the cob and hold the ear upright. One thing you must never forget in this kind of feeding is that a nail must never be driven into a live tree. It may be cut for timber some time and that one nail might cost the sawyer several dollars and the loss of considerable time in sharpening his saw if it runs into such a nail.

The farmers who are interested in wild life, and most of them are, appreciate this purchasing of food plots by the Game Commission and the special effort that the field force is putting forth in helping feed the game. Many farmers refuse to sell us feed, preferring to leave it for the game on their own. We feel however that the sportsmen are more than willing to have their money spent in this manner. When corn is bought in the field the amount must be estimated by the Game Protector and the farmer and we find from rechecking in the late spring that in almost every instance the farmer has given us the long end of the bargain. In one case we bought an estimated 12 bushels of corn and husked out that amount in the spring after the game had fed on it all winter. Many cases similar to this were observed, showing that most farmers are real sportsmen. While on that subject, a sportsman is one who is willing to live and let live.

The necessity for winter feeding came upon us very quickly this year and sooner than we expected. In addition to the plots of standing grain that have been bought in all districts over the State, the District Game Protector has feed available to anyone interested enough in the preservation of our wild life to help feed it thru the winter. From my experience I know that burlap bags are hard to find and it is suggested that anyone getting feed provide a bag. If unable to call for the feed, a telephone call or penny post card will receive attention as quickly as possible. When deep snow lays on the ground continuously for a long period of time, grit is a necessity for quail and ringnecks. A few handfulls scattered at each feeding station will help a lot. I have always felt that the month of March was one of the hardest months on our game birds. By that time most of the natural feed is gone. Weed seeds are all fallen out. Berries, grapes and crabapples are rotted and game birds are hard put for something to eat. It is at this time and during deep snows that the vitality of wildlife is at a low ebb and they become easier prey for predators. Before we hang up the old scatter gun, let's help take care of a few crows or great horned owls or foxes. Every predator killed now means more game next year because they have to eat to live, and their favorite winter diet is game. Let's not just talk conservation of game, let's work at it some.

. . . *The End*



The annual Easter Seal Sale, through which the Pennsylvania Society for Crippled Children and Adults and its 45 affiliated county units obtain funds to help thousands of physically handicapped in the Commonwealth, will be conducted from February 25 to March 25. Every dollar contributed is an investment in the health, happiness and future independence of a crippled child.

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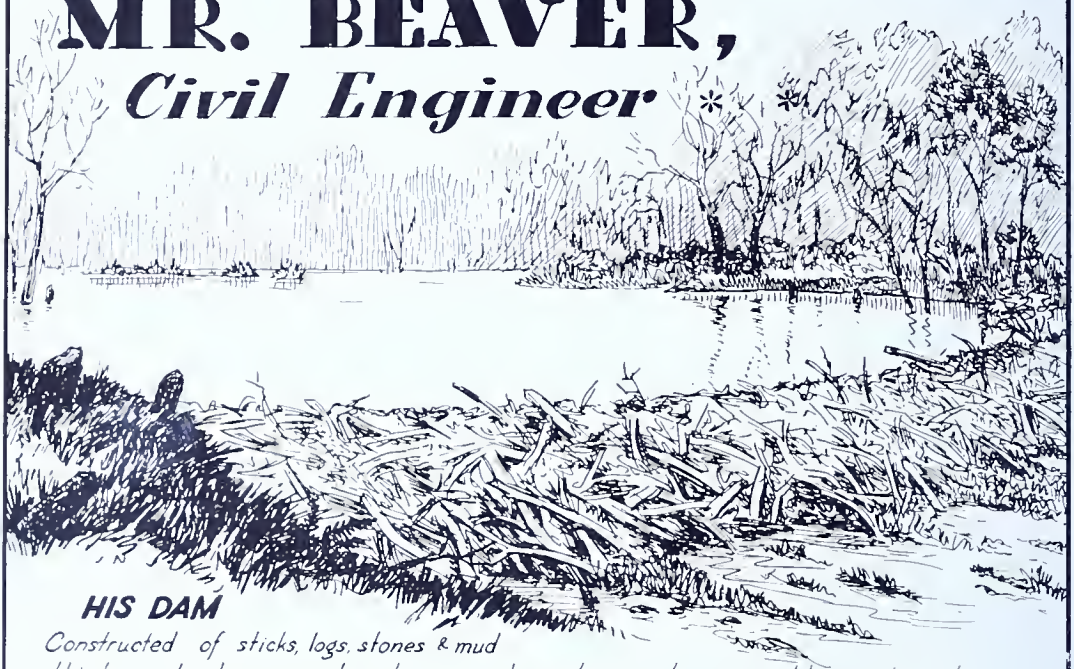
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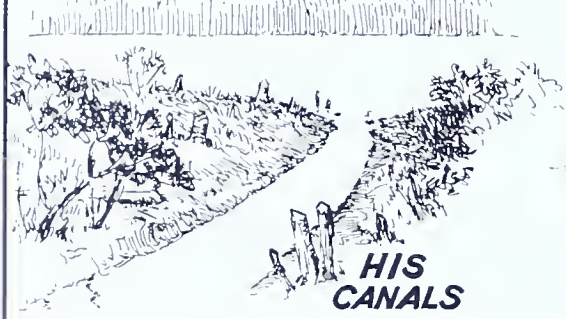
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MR. BEAVER,
Civil Engineer



HIS DAM

Constructed of sticks, logs, stones & mud this huge structure converts a tiny mountain stream into a sizeable pond, making trees for food & building purposes readily accessable by water. The same water, because of its added depth, gives the Beaver a refuge from his enemies and the weather.



HIS CANALS

Trees growing far inland are floated through these water-filled ditches to the dam, sometimes several hundred feet away.



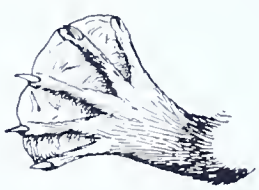
HIS HOUSE

This big (20-30 ft wide) heap of sticks and mud contains a cozy room above the water-line and an underwater entrance.

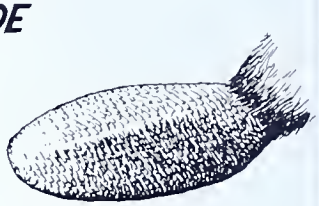
THE TOOLS OF HIS TRADE



Chisel-like teeth enable the Beaver to fell a 3" tree in 6 minutes.



He owes his reputation as a powerful swimmer to his broad, webbed hind feet.



His flat, muscular tail serves as a prop while he sits upright to cut a tree, and he slaps it on the water as a danger signal.

Ned Smith

PENNSYLVANIA

Game News



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THE STORY BEHIND THE COVER

FROM early pioneer days the American beaver has been listed among our most valuable natural resources. Prized for its durability, the fur of beavers played an important role in the exploration and early settlement of North America and, at times, beaver skins were stable currency for half a continent.

Because of their tremendous value, beaver pelts have long been marked by trappers and trapping companies as insurance against theft. In recent times such markings, either by a stamp or metal tag, have been required in most states and provinces so that a close check can be made on modern beaver populations and illegal traffic in furs.

Before the hide of any beaver taken in Pennsylvania may be sold or otherwise disposed of, and within 10 days after the close of the trapping season, hides must be presented for tagging to the Game Protector of the district or county in which the beaver was trapped. A metal seal, furnished at a cost of ten cents, is then affixed to the pelt and remains on the hide until it is tanned and processed into commercial fur.

For trappers like Thomas Lapsansky, of Port Griffith in Luzerne County, the tags required by the Pennsylvania Game Law are an assurance that his valuable furs can be readily identified at all times until they are sold and finally processed by the furrier. And for Game Protectors like Stephen Kish, of Avoca, the sealing operation as shown on this month's cover, affords an excellent check on the annual harvest of these prized furbearers.

Beavers were once abundant in Pennsylvania but relentless trapping pressure and the advance of civilization drove the "broadtails" to the brink of extinction by the turn of the century. Today, beavers are once more common to Penn's Woods, brought back by constant efforts of the Pennsylvania Game Commission. Sound conservation measures are once again playing a valuable role in the Commonwealth's economy. Absolutely protected from 1903 to 1934, the beaver has spread over many sections of our State. And all of our present beavers originate from a single pair of Wisconsin "broadtails" released by the Commission near Sizerville in 1917 and others released a few years later. Trapping seasons from 1934 to 1950 produced a harvest of 3,178 beavers and the trappers of Pennsylvania have harvested more than $680,000 worth of beaver fur—the result of modern, practical conservation.

PENNSYLVANIA CAN BE PROUD OF BRINGING BACK THE BEAVERS

PENNSYLVANIA Game News

Published Monthly
(Semi-Monthly in September and March)
by the
Pennsylvania Game Commission

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

★

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The Sixth Column

With America drifting dangerously close to the vortex of a third world conflict, a sixth column of speculators, profiteers, and exploiters is beginning to stir. Since this column plans to wave forever the shining banner of patriotism, it will require utmost vigilance on the part of legislators, civic leaders, and an informed public to separate the sixth column members from the sincere patriots who want only what is best for their country in its time of need. The task will not be simple.

The black marketeer and the hoarder are two well-publicized types, but there are others whose operations are even more subtle. Their common motivation—the worship of the dollar and a general disregard for anything but their own personal gain—characterizes the lot. These are the persons who seek to devastate the natural resources of this great country and undo in a fortnight, for a quick profit, what nature has provided for all time and, in some cases, the labors of generations.

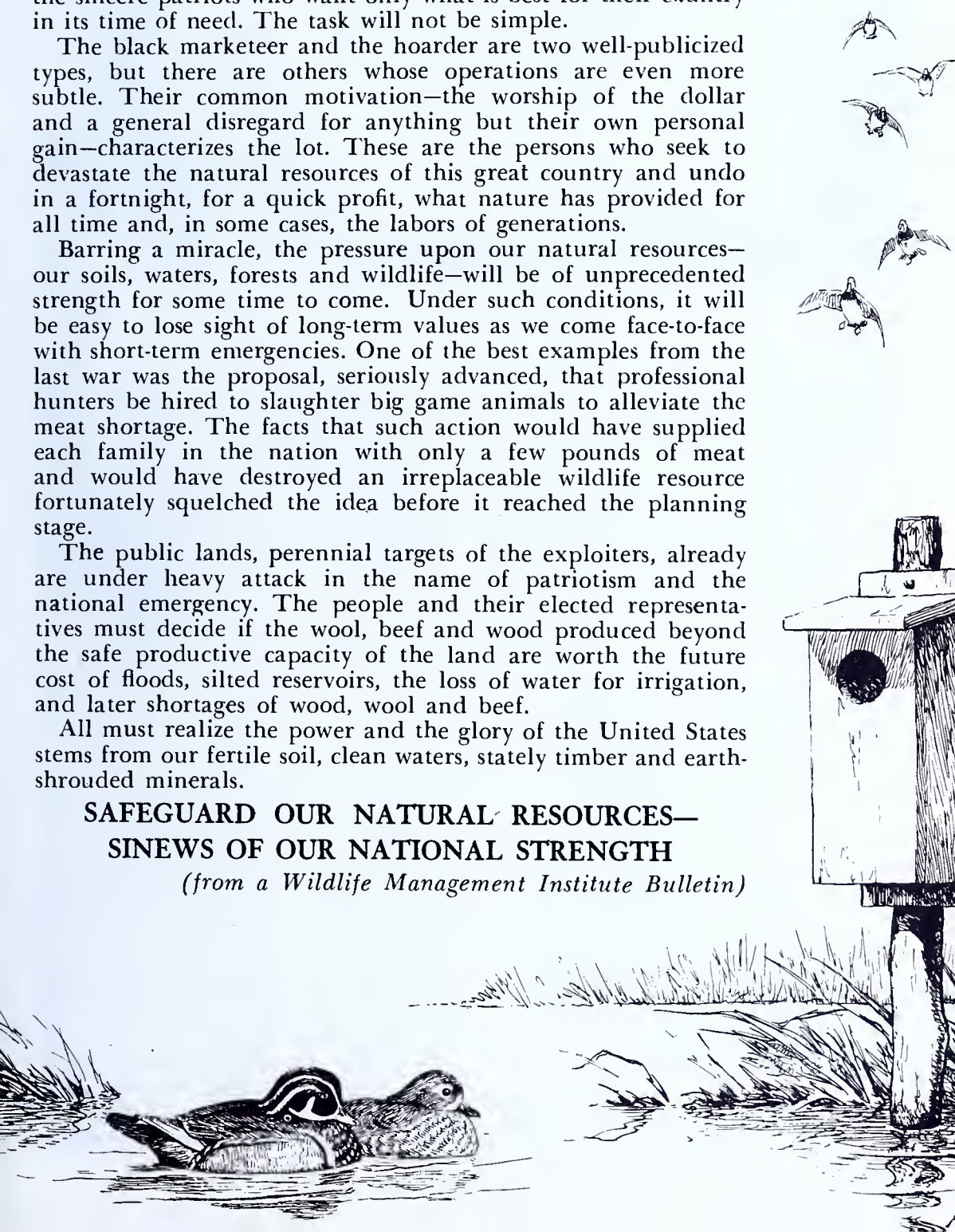
Barring a miracle, the pressure upon our natural resources—our soils, waters, forests and wildlife—will be of unprecedented strength for some time to come. Under such conditions, it will be easy to lose sight of long-term values as we come face-to-face with short-term emergencies. One of the best examples from the last war was the proposal, seriously advanced, that professional hunters be hired to slaughter big game animals to alleviate the meat shortage. The facts that such action would have supplied each family in the nation with only a few pounds of meat and would have destroyed an irreplaceable wildlife resource fortunately squelched the idea before it reached the planning stage.

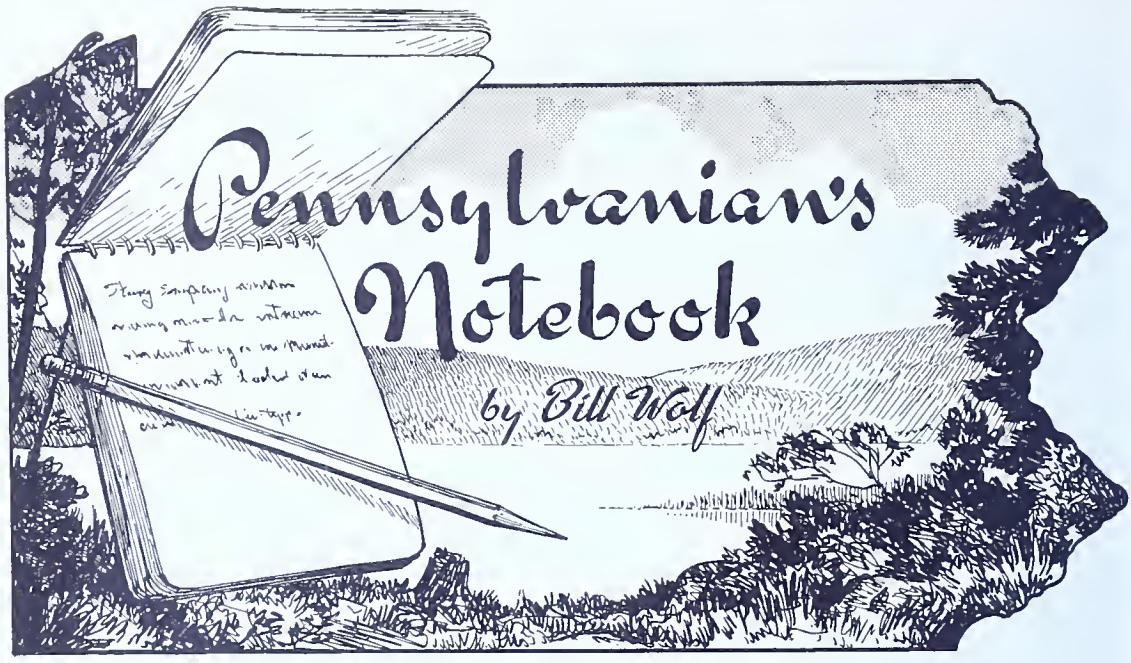
The public lands, perennial targets of the exploiters, already are under heavy attack in the name of patriotism and the national emergency. The people and their elected representatives must decide if the wool, beef and wood produced beyond the safe productive capacity of the land are worth the future cost of floods, silted reservoirs, the loss of water for irrigation, and later shortages of wood, wool and beef.

All must realize the power and the glory of the United States stems from our fertile soil, clean waters, stately timber and earth-shrouded minerals.

SAFEGUARD OUR NATURAL RESOURCES—
SINEWS OF OUR NATIONAL STRENGTH

(from a Wildlife Management Institute Bulletin)





PART II

ONCE, while fishing, I left the stream temporarily to follow a road which ran parallel to it, and was considerably surprised when I recognized the individual I saw walking briskly toward me. This was quite some miles from nowhere, and my reasons for being there were obvious enough from the rod I carried and the boots I was wearing; but he wasn't fishing. Instead, he was dressed very much as he would be to walk to the office back in the city where we both worked then, and where I knew him only slightly as a quiet, retiring man at a copydesk.

He was one of the last persons I would have expected to find in such an out-of-the-way place, but the reason became clear when we stopped to talk. He was doing just what he seemed to be doing—taking a walk. He liked to hike. He hiked every chance he got, and had already covered ten miles or more, and expected to walk many more before he rode back to town.

Liking Hiking Alone

Ernie belonged to some of the organized walking clubs in the city, but he preferred to go off by himself. It developed that he often hiked through mountain country where I fished and hunted. He liked especially to take a topographical survey map and a compass, start at a given point, and see how close he could come to arriving exactly at a chosen destination. This beeline travelling often took him through leg-retarding scrub growth, across swamps and some rocky ground—but that's what he liked.

It also developed that Ernie knew more about some sections familiar to both of us than I did, and I thought I knew them well. The reason for that, too, was plain: When I travelled a section it was as a hunter or angler; when he went through it, he was simply walking to see what he could see. I was intent on one thing. His senses were open to all things.

Hunters and anglers are inclined to look with some condescension upon hikers, especially when they encounter them in large groups. I share this innate suspicion of persons who stalk purposefully over the land in a band. They look as though they are bound and determined to enjoy na-

ture, no matter how repulsive they might consider it privately, and the only way they can face it is in the company of other persons like themselves. This may be an unfair judgment, but I have watched their chattering, noisy descent upon the quiet of the woods and fields too often to feel otherwise.

However, I do believe the solitary hiker, or the one who goes out with a chosen companion or two, will come to a better understanding of the beauties of Pennsylvania than any other person. He is not restricted to walking where there is "good" hunting, or "good" fishing, but can go where he wills. He can follow roads if he wishes, or strike out across any fields or woodlots that he fancies. He can take a light pack with a featherweight tent and sleep wherever he stops, or he can take chances on finding accommodations along the way. He is really footloose and fancy free.

Pedal Attachments

The chief items of equipment for walking are a good pair of feet, a good pair of shoes, comfortable clothing, topographical survey maps, and a compass. Bookstores and stationery stores usually carry topographical survey maps, which are issued by the United States Geological Survey, or you can look under "Maps" in the yellow section of your phone book to find a supply house.

Maps alone make a fascinating subject, and will receive a more complete treatment insofar as they pertain to Pennsylvania in a later issue of this "Notebook." This is no attempt to be a complete guide to hiking. If you want that you will find it in a volume called "The Hiker's Handbook," by Douglas Leechman, published by W. W. Norton & Company, Inc., New York, or in Horace Kephart's "Camping and Woodcraft," published by the Macmillan Company, New York. These books were written by men who were rather lone wolves in the outdoors, self-sufficient and efficient.

Instead, this is an effort to point out the virtues of seeing Pennsylvania by means of man's first method of locomotion.

Ambling Acquaintance

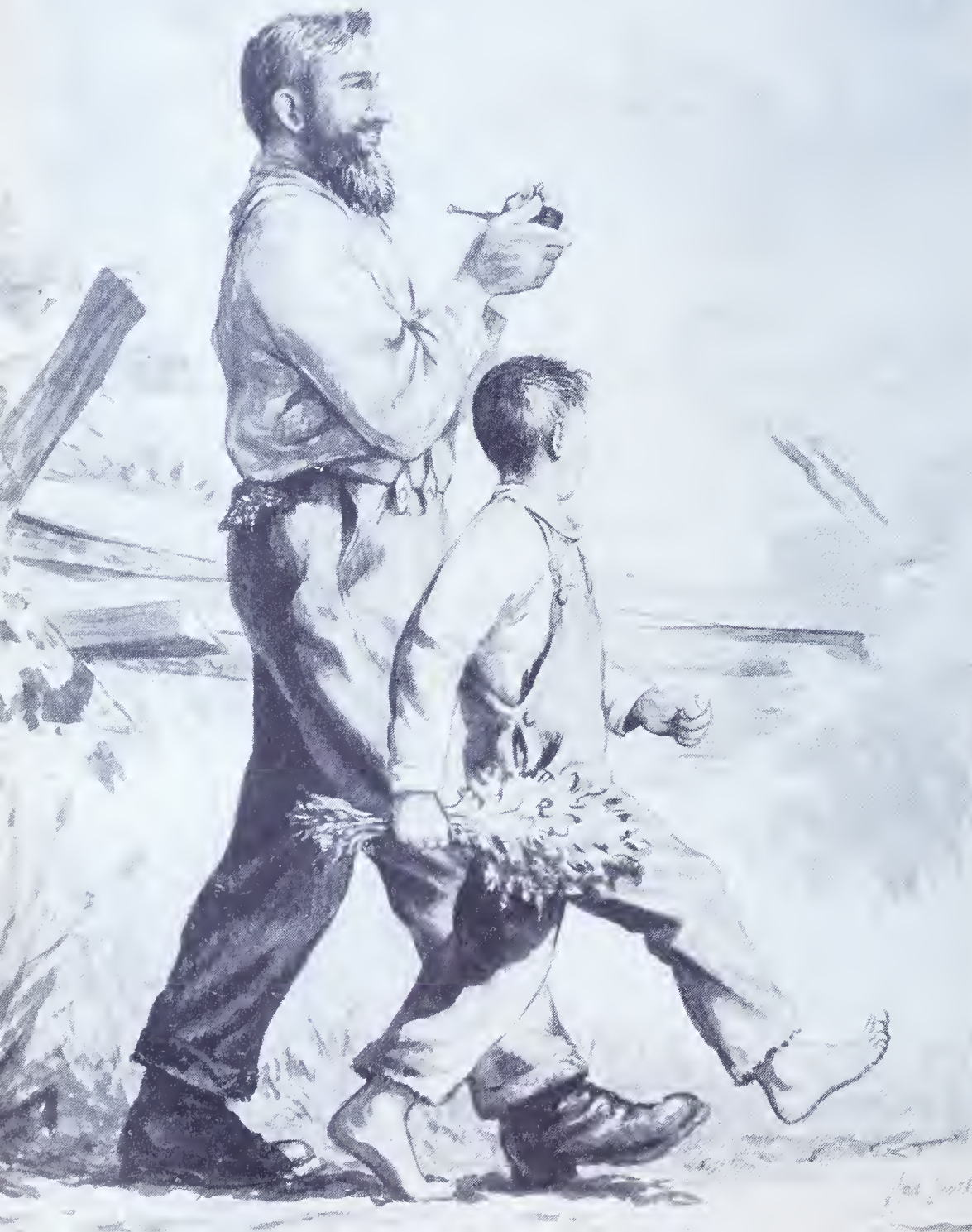
Perhaps the first true exponent of walking for walking's sake that I ever knew was my grandfather. With him, I tramped over most of York County, both when we lived in the city of York and when we occupied a farm in the Conewago Hills. I always accompanied him when he went hunting or fishing, but we made many expeditions when he did not carry gun or rod.

They were just rambles, although sometimes we went with some specific object in mind like gathering black walnuts, chestnuts or chinquapins, or some of the herb medicines which he insisted on taking home and drying, like boneset or mullein. Thus we explored the hills around Seven Valleys and Hanover Junction, the country around Spring Grove, the reaches of the Susquehanna.

He had been over most of the ground before I was ever born, and recalled many things from the past. He remembered being patted on the



"With my grandfather, I tramped over most of York County. I always accompanied him when he went hunting or fishing, but we made many expeditions when he did not carry gun or rod."



head by a Southern soldier as he stood beside a road and watched the Johnny Reb's scouts advance through York county. Most of all, though, I listened with interest to stories of old-time hunting in Pennsylvania, when flickers (then unprotected) went into many a potpie, when the corn jug went along on 'coon hunts, when "shooting at the mark" decided arguments over marksmanship, and the winner took a turkey home.

Bully Boy

Then there were stories about his father, John Emig, my great-grandfather, who was the "bully" of the section where he lived, and who met and defeated the "bully" of Seven Valleys in a hand-to-hand battle. The word "bully" then had a meaning entirely different fr n today's interpretation of it, and the original meaning survived until fairly recently in terms like "bully boys" and Teddy Roosevelt's favorite expletive "Bully!" A bully of a neighborhood simply was the strongest, ablest man.

Sometimes the bully from one region would meet and wrestle or fight with the bully of an adjoining community, somewhat as prizefights are held today. Well, sir, the bully of Seven Valleys started to say some mean things about the physical prowess of my great-grandfather, and John Emig decided he would have to lick him. A bully couldn't dodge any challenges and maintain face. So John Emig, having heard of the rather dirty tactics of the bully of Seven Valleys, had a member of his household bind up his groin tightly with a towel, and sallied forth to find the challenger. They met and the battle was a bit on the rough side because they kicked, gouged, scratched and generally beat the devil out of each other in those days.

However, John Emig won, and reigned as the bully of two sections instead of just one. Almost lost the title, though, one day when he fell asleep in a fence corner for reasons which my grandfather obscured in the telling from filial consideration for his father. While flat on his back, presumably snoring, a local strong man chanced to pass in a buggy, and thought that here was his opportunity to lick John Emig and become the bully. He sneaked up on him, leaped upon him and started to pound him with his fists. My great-grandfather opened his eyes, thrust out one hand, grabbed the attacker by the throat, and just hung on until another passer-by fortunately came along and saved the attacker's life and John Emig from a slight charge of murder.

I also had that story from other persons, older men than my grandfather, whom we visited on some of our rambles. Most of them knew the principals well, and told how the man who pulled the sneak attack on my great-grandfather said he was never so frightened as when he found himself held in the air by the throat, helpless and slowly losing consciousness. Thought he was a goner for sure.

So it seemed that I sometimes walked with folk history when I walked with my grandfather.

Of Codorus and Conewago

Next walking companion was Gene Goehrig, of York. We would start on a Sunday, follow the Codorus creek down past Black Bridge, and on to where it joined the Susquehanna River, then walk across to Mt. Wolf or Manchester where we would take a trolley back to York. This was a long hike, but we made it in the cold months on every clear Sunday. Once we fell in crossing the creek and stopped at Trout Run to build a fire and dry our clothing.

Then, when I lived in the Conewago Hills, I took to visiting a former teacher, Prof. Ziegler, who had a summer home over in what we called the Pigeon Hills at The Pickets along Conewago Creek. I would bicycle from my home to Dover and then to The Pickets over what were

then red dirt roads. Prof. Ziegler (I think it was Professor John Ziegler, but can't be sure of that first name after 25 years, and we always called him "Prof" anyhow) loved to walk around the hills near the creek, armed with a pair of binoculars, and looking for all the world like a German general of the first World War with his impressive gray-black hair, and close-clipped gray mustache.

He had a scientific interest in everything, trees, rocks, Indian relics, treasure trové, plants. We climbed all over Mount Issis (and I'm not sure of that spelling), the highest hill near The Pickets, and looked upon the excavations made there by persons who heard and believed ancient stories about a bandit in York County who buried his stolen treasure on Mount Issis. I wonder whether treasure seekers still dig there? And after each rain, we would go through the plowed and cultivated acres behind his cottage to look for Indian relics. That spot apparently had been a popular Indian camp, and it was easy to find arrowheads, knives, parts of tomahawks, and he even had an old paint stone on which some warrior had mixed his colors.

Jerky and Pinhole

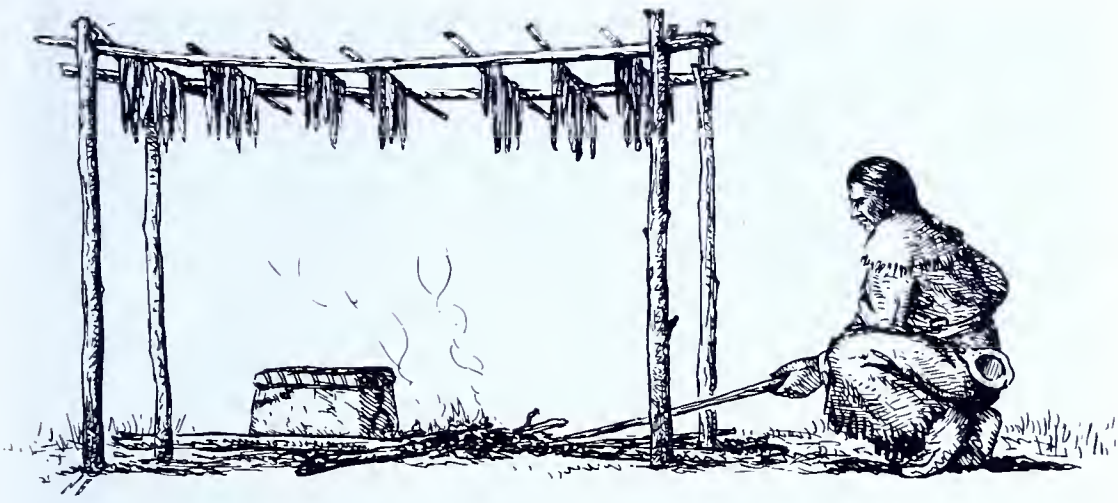
Since then I have tramped over much of Pennsylvania, but those early experiences stand out as such experiences always do.

And just the other day I got to thinking about the first white "walkers" in this State and what they carried with them when they would set out on a "hike" into Pennsylvania's wilderness from the first eastern settlements. They walked because they had to, because it was the only way unless they travelled a river big enough to carry a canoe. They followed the trails of the Lenni-Lenape, the Susquehannocks and other Indians of the early day of Penn's Woods.

Later settlers carried with them flour, salt pork or bacon, and salt; but the very earliest travellers usually had exactly two staples with them—jerky and *pinole.* It wasn't even called *pinole* then, but properly known as *rockahominy* or by one of its other Indian names, or simply as parched corn. This was one of the "perfect" foods for the foot traveller—light in weight, extremely nourishing and so palatable that users swore they never tired of it even over a period of weeks.

A Moravian missionary to the Lenni-Lenapes described how they made it in this part of the country, and the method was much the same over all the continent where Indian corn was grown. "Their *Psindamóoan* or *Tassmanáne,* as they called it," he wrote, "is the most nourishing and durable food made out of the Indian corn . . . They parch it in clean hot ashes until it bursts; it is then sifted and cleaned, and pounded in a mortar into a kind of flour, and when they wish to make it very good, they mix some maple sugar with it. When wanted for use, they take about a tablespoonful of this flour in their mouths, then stooping to the river or brook, drink water to it. If, however, they have a cup or other small vessel at hand, they put the flour in it and mix it with water, in the proportion of one tablespoon to a pint. At their camps they will put a small quantity in a kettle with water and let it boil down, and they will have a thick pottage."

This became better known as *pinole* in the Southwest where it was used by nearly every pioneer, and by that name it is remembered today. If you really want to travel light in the woods, make up some *pinole* for yourself. Take some common field corn, roast the dry kernels in an oven until they are a good brown, then pound or grind them to a consistency not quite as fine as flour. Mix in sugar to taste, and add some ground chocolate or cocoa. When hungry, mix a heaping tablespoon in a pint of water, and drink your dinner.



But don't let the delicious taste lead you to drink too much at one time, because the comfortable fullness of the belly that one pint induces can be turned into discomfort by taking too much. It swells. The men who carried it with them through Penn's Woods never ate much at one time, but stopped a number of times during the day to take their liquid nourishment.

With them, too, went jerky, or jerked venison. This also was a food that did not jade the appetite. The curious hunter who would like to turn some of the deer he kills into jerky just to find out what it tasted like can proceed thus:

Cut the leanest meat into strips about 10 inches long, an inch thick and as wide as the cut comes. Soak these for a day or two in a strong salt brine, take out, pepper them, and smoke them. The smoking is done on a framework of sticks about four feet above the fire, or in a smokehouse if that is handier. The framework can be built by driving four forked stakes into the ground, placing two parallel poles on the forks, and laying smaller sticks across the two poles an inch or two apart. On these smaller sticks, the strips of meat are placed, and the fire started.

The fire must be big enough to smoke the meat, but small enough so that it doesn't cook the venison. Black birch is a good wood if available; so are hickory and apple wood. The smoking continues until the meat is nearly crisp, which may take a day and a night.

Some of the oldtimers liked the venison cut into strips about two inches square, and *not* smoked, but heat dried over the fire until about the consistency of today's commercial dried beef. Many used no salt at all.

If venison is not available, beef will serve. And then, armed with *pinole* and jerky, a modern pioneer could go into the woods and live indefinitely without having to kill game or catch fish. The jerky has the same advantage as the *pinole* — all the moisture possible has been driven out of the meat, making it much lighter to carry and practically indestructible. Furthermore, it has an infinitely better taste than commercial dried beef and is not so salty.

The jerky was eaten, often on the run, simply by gnawing away at a piece of it. Or it was beaten fine and cooked in water.

The two, jerky and parched corn, sustained many a trapper or explorer in the wilds of ancient Pennsylvania; and, surprisingly, the modern hiker would find them just about ideal foods to take with him.

. . . To Be Continued



Planting Trees For Posterity and Wildlife

By John M. Phillips

WHEN Columbus discovered America, the white race fell heir to the finest country in the world, a rich land covered with many magnificent forests and watered by pure streams, a land teeming with wildlife, the Paradise of the Indian.

In the work of policing, protecting, and preserving these forests which stood here for countless ages, birds and beasts served each in his sphere, performing a useful work for which the Great Spirit created him.

In searching for grubs, ants and other insects, bears tore to pieces rotten logs and uprooted the tree stumps to make room for new trees, scattering the fragments on the forest floor, where they disintegrated quickly and became fertilizer. The buffalo, elk, deer, rabbits, and other grazing and browsing animals destroyed weeds and pruned the trees, throwing the growth to the tops, making timber. Turkeys, grouse, and other birds destroyed ground insects. The woodpecker family policed the trunks and large branches of the trees while the warblers and other species of small birds cleansed and protected the small limbs and foliage. The squirrels planted nuts and the birds distributed seeds. The industrious beavers built dams which held back the water, conserving the silt and thus creating fertile meadows. The predators prevented undue increase in wildlife by destroying the surplus, including the weak and the sick, while the scavengers removed the dead and prevented infection and disease.

To the birds and mammals we owe our forests and many fertile meadows.

The white man, by use of the ax, fire, plow, sawmill, and gun together with the drainage and pollution of our waters, the importation of noxious fish, birds, insects, and blights and the commercialization of forests and wildlife has almost destroyed the Indian Paradise.

Today, our conservationists, bewailing the destruction of flora and fauna and the pollution of our waters, are making strenuous efforts to purify our water, preserve our fertile top soil and to replace both our forests and wildlife.

The first trees to be cut to clear farms and later to be commercialized were the black walnut, butternut, hickory, oak and chestnut, all bearing mast. The wild mulberry, wild cherry, gum, persimmon, and many other valuable fruit trees followed and, as a result, today there is very little natural food for wildlife in fields and remaining forests.

First settlers used walnut, our finest and most valuable North American hard wood, for buildings, fence rails, house furniture, and other common objects because it is easily split and worked. Ever since guns were made in America, they have been stocked with seasoned walnut which does not shrink or warp and is not likely to splinter under the impact of a bullet. Thus during our many wars, millions of the finest trees have been sacrificed for this purpose.

Prior to World War I, Germany purchased much of this Country's best walnut, presumably for furniture and veneer, but actually for gun stocks and airplane propeller blades. When we entered that war, we used the cream of the remaining walnut for the same purpose so that these utilitarian trees, known as North American mahogany, are almost extinct in many sections.

Karl Maslowski Photo

The gray squirrel, native reforestration agent, planted nuts and acorns, performing a useful work for which the Great Spirit created him.



Axe Handles and Wagon Wheels

Our hickory trees have been used for axe and pick handles, wagon wheels, and innumerable general purposes where a strong, tough wood is required; as a result, few of these trees are left. The blight which destroyed our chestnut trees about forty years ago was a national calamity, not only in the loss of valuable wood and human food but in the loss of vital food for bear, deer, squirrels, grouse and turkeys which depended upon the Fall nuts to fatten and strengthen them to endure our severe winters.

Our Forestry Departments and sportsmen are planting almost conclusively pines, hemlock, spruces, and other coniferous soft woods for future lumber but have neglected the more valuable hardwoods, black walnut, butternuts, hickories and oaks. The reason for this is that soft-wood trees can be grown from seeds almost as easily as grain and the seedlings cheaply handled. Although good cover, coniferous trees furnish little food for wildlife and are a fire hazard; their needles form a carpet on the forest floor killing all ground vegetation and harboring wood rats and mice which live on the small seeds which sift through the needles. These rodents scatter to the surrounding country and their destruction of crops and trees is often blamed upon the rabbit.

As a small boy I had an Indian chief as a tutor who taught me woodcraft and the way of wildlife as known to the Indian, including the importance of its natural food which even then was disappearing. He told me if I wanted to be a hunter to look for game where its food was plentiful and the water pure. Beginning on my grandfather's farm, I have been planting ever since and working for the purification of our waters.

In 1905, as a member of the Pennsylvania Game Commission, knowing of the scarcity of natural food in our state, I initiated a program of mast and fruit tree planting.

Trees from Tiny Hands

For a number of long years, I had tried vainly to interest the Forestry Department, the Audubon Society and the sportsmen in this project. Failing to arouse the older generation to replanting the State's forest for the benefit of our people and wildlife, I turned to the school children. I began in my own community of Carrick by distributing thousands of Russian mulberry and sweet cherry trees to the children, with the understanding that one-half the fruit produced was to be dedicated to the birds. I also distributed bird houses.

The program received impetus in 1912 when Governor Tener came to Carrick, then known as a bird haven, to speak and assist in distributing trees. He told the 2000 assembled children that the program was the foundation of conservation and more useful than work being done by the State. As a result of his visit, my friend, Senator George Oliver, publisher of the *Pittsburgh Chronicle-Telegraph,* asked for the privilege of sponsoring the program. This resulted in the formation of the largest bird house building and tree planting club in the world of which I served as president with a corps of leading architects as judges. As many as 12,000 boxes were built yearly and exhibited in downtown Pittsburgh. The 25 annual winners of substantial prizes were taken to Washington in a special car where I accompanied them as they presented their prize winning boxes to the President of the United States for erection in Washington Parks. The ceremony took place in the presence of our national representatives on the sacred spot before the Capital on which Presidents of the United States are inaugurated. The contest was discontinued in 1928 when Senator



Although the kernels of beechnuts, shown here, are small, they are sweet, edible and nutritious. The nuts are utilized as food by many species of forest wildlife including the deer, black bear, raccoon, gray squirrel, red squirrel, ruffed grouse and wild turkey.

Oliver sold his newspaper.

Meantime beginning in 1905, as a member of the Pennsylvania Game Commission, I also enlisted in the planting program our more than 100 Pennsylvania game protectors. These men planted throughout the State hundreds of thousands of fruit, nut and other mast-bearing trees, as well as shrubs and vines. To the man who planted the most, I awarded yearly a 28-gauge double barrelled Parker shot gun.

In 1910, after assisting in organizing the Boy Scouts of America, I turned to the Scouts, hoping to build for the future by fostering in them an interest in conservation of our forests, waters, soil and wildlife.

Scouts for Conservation

During World War I, Boy Scouts were asked by the Federal Government to find and record on maps the location of all walnut trees suitable for gun stocks and airplane blades. To replace trees destroyed for this purpose, Scouts in Allegheny County immediately started the planting of walnuts.

There are now about 19,000 Boy Scouts in Allegheny County. For a number of years the writer offered a silver cup to the Troop planting the most nuts in the County. The prize-winning troops each planted yearly from 16,000 to 24,000 nuts of different species.

The National Council of the Boy Scouts of America, of which I am a member, adopted a resolution I presented in Kansas City in 1932 setting aside one week, beginning October 27, the birthday of my friend, the late Theodore Roosevelt, great conservationist and Boy Scout leader, to be known as "Boy Scout Nut Planting Week." During this week, over 2,600,000 active Scouts throughout

the United States are asked to gather and plant all varieties of nuts. Throughout Pennsylvania, the Scouts cooperate with the Game Commission in its plantings.

Scouts enjoy nut and fruit tree planting hikes. They enthusiastically plant trees from which in eight to ten years they will share fruit and nuts with wildlife; however, they are less interested in planting coniferous trees which when matured in 50 to 100 years will be cut for lumber.

The Boy Scouts have been congratulated by Federal officials and many national conservation associations for their valuable work in planting nut and fruit bearing trees, shrubs, and vines to produce natural food for wildlife. The young and energetic members of the 4-H Clubs throughout the nation are also doing fine work in this field. Also recruits in the work are the forward-looking women of the Pennsylvania Federation of Women's Clubs. They are specializing in planting dogwood, not only for the flowers but also for the berries which feed birds and mammals.

Although our sportsmen, who are benefited most from these activities, have been doing commendable work in the preservation of our wild waterfowl, in assisting with the purification of streams, feeding game during the winter, and other conservation measures, the majority of them have overlooked the natural feeding of our upland game which winters with us.

In fact, I have often seen a hunter kill a squirrel in the act of burying a nut. He would pick up the nut planter's carcass and start off in search of another nut tree, leaving the squirrel's nut, which would have meant another tree, unplanted beside the hole the animal had prepared.

Planting Nuts Is Simple

Nut planting, however, is a simple

Once the queen of eastern American forest trees, the chestnut was almost wiped out by a blight which struck in 1906. Today several Asiatic varieties of the chestnut offer great promise of bringing back the famous nuts which formerly were a dependable source of wildlife food.



matter for the sportsmen hunting in the Fall when ripe nuts drop from the trees. The only tool he needs in planting is a small garden trowel or a sharpened stick to make a hole three inches deep. If he lacks these, he can use his boot heel to drive the nuts into soft ground. Since nut trees have tap roots, they should be planted in good, deep soil, 50 to 60 feet apart for they as well as fruit trees require space and sunshine to mature and produce. They should be planted where they will not interfere with farming, preferably in fields, along fences, country roads, and at least 50 feet from the edges of woods where squirrels will not be so likely to dig them up.

Walnuts have a green outer hull which I believe contains fertilizing elements. I have had greatest success by leaving this hull on the nut but crushing it with the heel when planting. However, the most satisfactory method of insuring growth of walnut, butternut and hickory trees and having the tree located where desired is to gather selected ripe nuts as soon as they have fallen, then hull to save space and plant them stratified in boxes.

These boxes in which small holes have been bored in the bottom should be sunk flush with the ground and exposed to the weather. Place 2 inches of sand or sandy loam on the bottom of the box, then hull the nuts to save space and place one inch apart; and another 2 inches of loam and a second layer of nuts and cover with 3 inches of moist sand or sandy loam. A third layer may be added and topped with approximately 4 inches of garden soil. If rodents are likely to disturb, a wire mesh may be placed over the box. Transplant where desired early in the Spring when the frost goes out of the ground; cultivate and for the best results, fertilize if possible. Squirrels and other rodents are not likely to destroy these sprouting nuts. Nuts can also be planted in the Fall in gardens where there are no rodents and transplanting in the spring.

In my first experiment of planting, I used a cigar box with good results. A sportsman friend, a banker, instead of planting himself, utilizes the services of the squirrels, the original nut planter. He purchases bushels of nuts, piles them in the woods and the squirrels bury them for winter food. Many of the squirrels are killed during the hunting season and the nuts they plant may become trees.

Four Times Better Than Meat

During the great depression, many of our unemployed gathered and sold nuts which are a delicious, valuable and wholesome food. Nuts make an excellent meat substitute since nut kernels contain 3,200 calories per pound compared with only 800 calories per pound of average meat. They are also rich in vitamins. The food value of nuts is four times that of meat and more wholesome.

The Indian understood the food value of nuts. With a pouch filled with nut kernels and parched corn, he could travel incredibly long distances, subsisting solely on this food. If he had added dried fruits, for instance wild grapes, he would have had a balanced diet. Many hunters and explorers use this mixture for a perfect iron ration. I have done this myself, using raisins or prunes instead of grapes.

Many of us insure our lives for the benefit of our children. Why not plant an orchard of nut trees for their benefit? The value of these trees, both aesthetic and commercial, is unchallengeable and in augumenting your possessions by planting them, you will have the joy of providing food for the people and wildlife of our Country.

"Only God can make a tree" but it is our duty to plant them so our land will not become a desert.

. . . *The End*

Outdoor Reveries



Forward March!

By John H. Day

THE bully boy of the calendar has returned again to the woodlands. Loud-mouthed March, full of threats and bluster, once more struts the outdoor stage. With a great huffing and puffing the newcomer presents a bold front, facing down all the little people of the wayside trails until they learn that he is just a "heap big smoke and no fire". Then along will come mild-mannered but firm outriders of the vernal equinox to challenge this blow-hard and the braggart will cave in, his bluff expertly called by a surging Springtide that yields to no master.

Truly in March "the wind bloweth where it listeth". Sometimes when the blusterer works up a real indignation the mad winds tear along at a fifty mile clip, setting all the woods crazy. No wonder the March hare is mad. He lives in bedlam. He settles down in his form, full of apple-tree bark and succulent Spring herbs from the brookside, ready to contemplate nature with drowsy contentment.

Suddenly along comes the searching blast, hurling his "form" high in air, skittering its soft leaves far and wide, and leaving him practically denuded. The whipping trees howl like beagles on his trail. Twigs and other debris rattle down out of the sky as if he were being pelted with buckshot. If he sets his cotton-tail white flag at half mast from fear and goes whooping through the brush in a mad frenzy, who can blame him?

In the threshing and winnowing of the woodlands as the March winds unleash their hard steel blasts none but the physically fit may survive. The last clinging leaves are stripped from the oaks, and all chaff and debris expertly pruned from the forest. Those trees no longer fit for the struggle for existence are weeded out. The eye may not be able to pick these, but the gale finds them.

Now comes the Spring housecleaning in the timberlands, when Nature is sweeping and picking up, preparatory to laying new carpets, and getting new furnishing throughout. If any of the old furniture of the woodland is not able to stand the strain, it is rudely relegated to the woodpile. Without the mad March winds the forest would lose much of its fresh virility. Old deadwood would cumber the new growth and the mild melancholy of decay would prevail, just as it does in some swamps where sheltering hills and close growth shunt aside the gales.

The bullying March has his gentler side. He usually calls a halt to truculent posturing long enough to stand aside in humble awe as Spring comes to the woodlands. The coming of Springtime in the woods is one of the gentlest and sweetest advents in the world. Sometimes there are heavy rains which fill all the little ravines with an overflood that quickly eats away the ice and snow, but usually the woodland streams open slowly and gradually.

There is no doubting the presence of Spring in March. She is at hand as certainly as the sap that rises in the maple, though the sugar be made in a grove carpeted with a foot of snow. Early March does not mean that Winter is done. After balmy days there come spells of cold; low temperatures that snap clapboards from the nails and send gunfire through the heaving ice on farm ponds and mill dams.

March is full of broken promises. Part of these promises is in the buds of hardwood trees and shrubs. Pussy-willows by a stream bank are persuasive. When the maple buds burst into an orange mist the countryman knows he is a step nearer Spring. Winter fights a stern rear-guard action as the March winds talk big, but the vernal promise will soon become reality.

To the calculating scientist the vernal equinox is but one fleeting moment in the parade of the hours. To the countryman, eager for planting time and the tremendous spiritual lift of the resurgent Spring-tide, arrival of the long-awaited day closes the book on the big sleep of the Winter countryside. There is a magical overnight change in the complexion of things. The hiker can almost feel the quickening tempo as he swings along the wayside trails.

Brushing aside the soothsayer's warning to beware the Ides of March, I took off for the woods to see if by chance the recent snows had lain long enough to record some of the night wanderings of the furred gentry. Sun and wind had reduced the white blanket to tattered shreds on the open hillsides, but in the thickets and beneath the big trees the newspaper of the snow lay clearly printed for all who passed that way to read.

I had just entered a brambly thicket of wild apple when I came across the snow signature of a weasel. The bloodthirsty little killer had come down through the oaks on the ridge and had scoured the thicket nervously, testing every nook and cranny in a tireless search for a midnight snack of deer mouse, or mole, or even a rabbit. So far as I could tell, he had met with no luck and was probably then miles away, still driven by his insatiable lust for blood.

A short distance further on I crossed the fresh boot prints of another outdoorsman. His trail was interlaced by the galloping tracks of the beagle he had brought along to course for rabbits in the undergrowth.

Down through a shallow draw in the trees came the precise, unhurried trail of a hunting fox. I followed along for perhaps two hundred yards, noting where the shrewd Reynard had stopped two or three times to test the breeze. He had apparently enjoyed a peaceful nap in the snow atop an ant hill, and at one point had done some aimless digging at the base of a small sapling.

There were the usual rabbit trails all through the thickets and after I got into the bigger timber, the tracks of gray squirrel showed up, usually in quick scamper from tree to tree. The bushy-tails scolded from safe hideaways high up, but they were careful not to show themselves and I did not press for any formal interviews.

A bright patch of new green grassy growth stood out against the snow in a marshy stretch. A cordon of trails criss-crossed this area and at first I thought that a raccoon had shuffled about during the midnight hours. I followed the trail up over the bank

and soon came to a den beneath a large flat rock which was plainly the handiwork of a ground hog.

The trail continued on up the hillside, even jumping up on a fallen log and traversing its length precisely in the manner of the 'coon. Soon the whistle pig came to another den where he had apparently visited for a while. Then on went the trail, leading me down into a deep ravine and up the other side to a third den beneath the roots of a giant beech.

No doubt that greenery in the marsh by the brook had drawn the woodchuck's attention. There's nothing like a mess of Spring greens to satisfy the inner man. But it was the primal urge and not hunger, which had led him to go visiting in those dens on the wooded hillside. Under the tremendous pull of timeless instinct "neither rain, nor sleet, nor snow, nor gloom of night, shall stay these grizzled couriers from the completion of their appointed rounds."

A day or so ago I had the good fortune to encounter a small flock of cedar waxwings. They were sitting quietly in the top of an oak, apparently just enjoying each other's company. The light was good and I had an excellent view of their conspicuous crests and the yellow band field mark at the end of the tail. They observed me aloofly until I got too close, then rose up with the timed precision of a fighting squadron and went away from there.

The cedar waxwings are the kid-gloved gentry of our feathered society. They are inclined to be rather exclusive, but their gentleness of manner and style and dignity of their dress have endeared them to folks who follow the doings of the bird world. They are not endowed with much vocal ability. Their voices are slight and thin, perhaps best described as saying "Sh-r-r-e-e" by a process of neatly rolling their "r's".

Sometimes a gentle flock of these socialites visits with us when the apple-sauce tree in the backyard is in full b l o o m. Ranged along the branches like a Japanese painting on silk they are truly a joy to behold as they hold quiet Quaker meeting. They have the charming habit of passing a rosy petal from one to another down a whole row of beaks and back again.

My favorite feathered songster, the song sparrow, serenaded me from the brookside thicket as I wandered back through his favored rocky glen. The countryman knows well the friendly song sparrow, who finds his way to every dooryard, every roadside tangle, every weedy wayside place. I prefer his simple song of faith over all the operatic performance of the thrushes.

He is not a Springtime troubadour, forgetting that he knows how to sing during the remainder of the year. When my mother was a slip of a girl on the home farm she heard the song sparrow by the spring house sing: "Jesus loves even me-me--me--me--me!" This morning as I spread a bag or two of lime on the truck patch below the house, one of these trim little fellows perched atop a cherry sapling in the fence row, drooped his wings, and sent the same ecstatic melody heavenward.



He seems to have the distinct mission of making wasteplaces glad. I have heard him sing in every month of the year, brightening his corner with the simple strains of the most cheerful music of the wayside. Perhaps it is because of his quiet dress and demeanor that he has been so wholly overlooked by the men who make literature. The countryside would not be the same without him.

There is a sudden indefinable joy at thought of Winter's end. Perhaps it rises from an age-old fear of Winter and the cold, a fear whose roots go back to a time when man's ancestors guarded their little Winter fires with their lives.

March has had quite a history. Once it was the first month of the year. Then along came the Julian calendar and changed its status. The old Saxons called it the "lengthening month" because of the lengthening days. Shakespeare watched the English daffodils "take the winds of March in beauty. For better or for worse the bully boy, March, is with us again, and though the March winds and the March hare may both go mad again, we will have moments when Spring is very near.

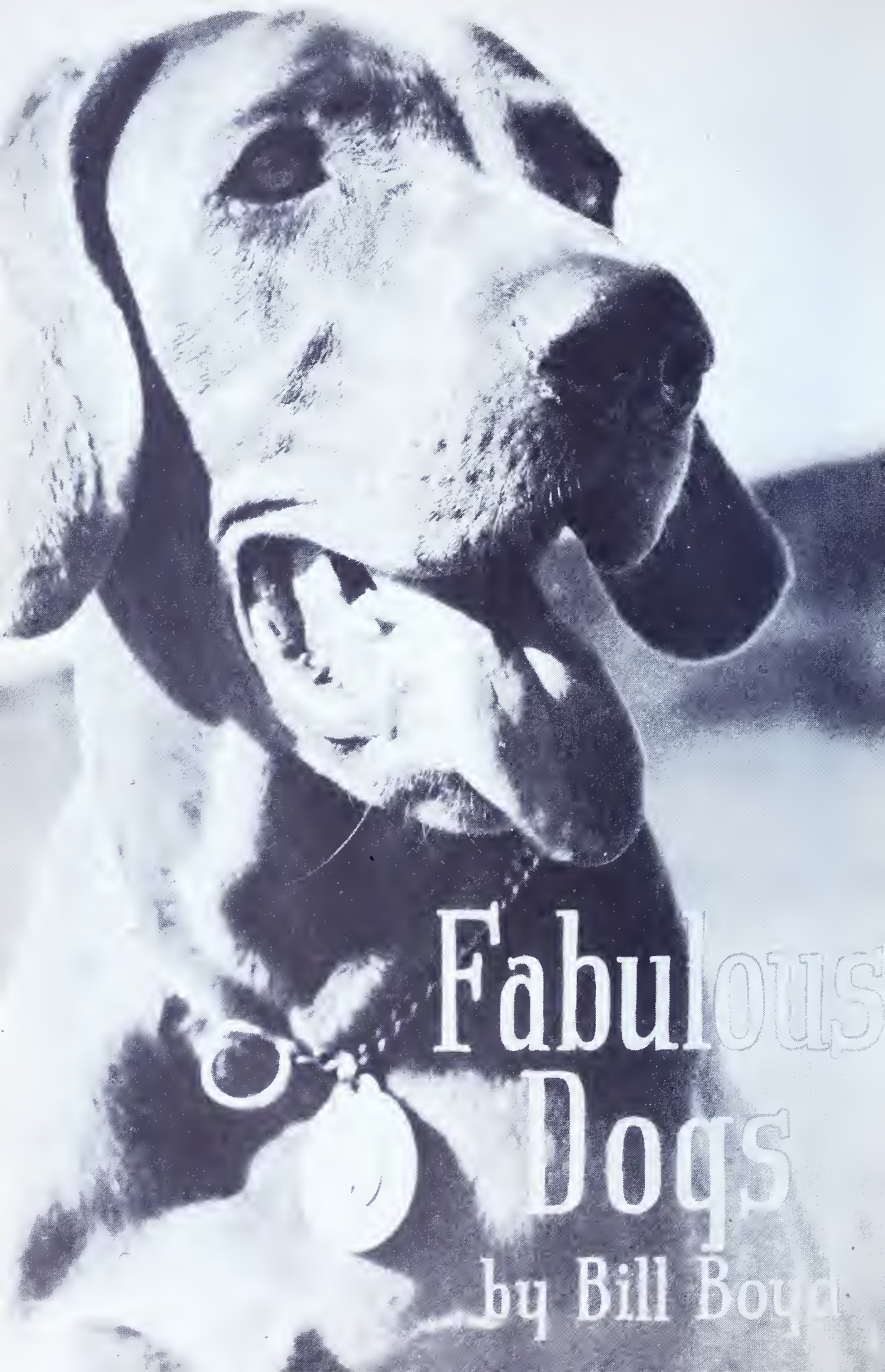
. . . *The End*

PENNSYLVANIA GAME COMMISSION
RESIDENT AND NON-RESIDENT HUNTERS' LICENSES ISSUED BY COUNTY DURING 1949

Counties	Resident 1949 A. F.	D. V.	Non-Resident 1949	Counties	Resident 1949 A. F.	D. V.	Non-Resident 1949
Adams	5,551	43	279	Lancaster	26,596	97	6	126
Allegheny	62,304	363	1	153	Lawrence	11,580	53	4	919
Armstrong	12,833	54	3	86	Lebanon	10,643	90	2	32
Beaver	13,597	41	6	268	Lehigh	12,183	116	9	73
Bedford	7,469	42	2	299	Luzerne	29,418	211	17	297
Berks	23,040	207	4	40	Lycoming	15,066	103	5	265
Blair	17,493	121	...	163	McKean	11,151	31	...	1,147
Bradford	8,760	53	3	480	Mercer	14,983	46	4	1,643
Bucks	9,747	241	2	581	Mifflin	7,774	110	6	106
Butler	12,764	...	2	159	Monroe	5,742	41	...	477
Cambria	22,093	70	11	171	Montgomery	21,241	89	4	45
Cameron	1,486	2	1	250	Montour	2,026	39	1	16
Carbon	6,147	57	2	55	Northampton	15,797	55	...	557
Centre	11,224	51	8	140	Northumberland	13,729	67	7	39
Chester	13,267	56	2	313	Perry	4,265	19	1	18
Clarion	7,878	45	10	289	Philadelphia	21,781	424	...	437
Clearfield	15,269	85	5	404	Pike	1,632	15	1	1,359
Clinton	7,482	101	2	131	Potter	3,989	38	...	1,020
Columbia	7,903	61	1	68	Schuylkill	19,107	80	8	66
Crawford	13,958	49	4	532	Snyder	3,511	14	1	13
Cumberland	12,720	277	...	52	Somerset	13,113	93	7	245
Dauphin	18,854	643	...	161	Sullivan	1,419	6	1	51
Delaware	11,499	41	6	123	Susquehanna	4,577	14	...	224
Elk	6,547	32	2	463	Tioga	7,372	23	1	472
Erie	22,541	56	10	630	Union	3,597	21	5	28
Fayette	18,287	77	22	160	Venango	9,979	78	2	867
Forest	1,188	5	1	457	Warren	6,682	35	4	1,246
Franklin	10,184	112	...	265	Washington	19,702	32	3	371
Fulton	2,052	9	3	109	Wayne	4,502	31	4	440
Greene	4,738	12	6	72	Westmoreland	32,110	86	10	263
Huntingdon	7,282	70	12	134	Wyoming	2,543	13	...	86
Indiana	11,851	81	9	192	York	21,587	109	5	313
Jefferson	11,146	42	8	1,049	Dept. of Revenue	965	...	...	1,843*
Juniata	2,564	22	3	29					
Lackawanna	13,835	81	6	171	Totals	815,915	5,581	275**	24,032*

* Includes alien Non-Resident Hunters' Licenses issued as follows: 1948, 7; 1949, 5.

** The figures in parenthesis indicate "Free Licenses Issued to Members of the Armed Forces and Disabled Veterans." The 1949 General Assembly authorized the issuance of "Free" licenses to Disabled Veterans. (A. F. indicates "Armed Forces" and D. V., "Disabled Veterans"), which are included under column "Resident Licenses."


Fabulous
Dogs
by Bill Boyd

WEIMARANERS! In virtually every sports magazine one peruses these days there appears an illustrated article concerning these fabulous dogs, so it seems apropos the PENNSYLVANIA GAME NEWS should tell its readers something about this animal, whose number in this state is limited.

Only a few months ago my young friend, Lee, acquired a Weimaraner pup. His purchase was made after months of admiring talk about this canine breed and its vaunted superiority.

"Believe me, when I get the kickback on my government war risk insurance I'm going to have one of those dogs," said Lee to me as early as last summer. And fulfilling this promise to himself, he bought a pup last winter.

At virtually the same time another war veteran employed by the same publishing company for which Lee works bought himself a Weimaraner puppy. But he chose a female, whereas Lee bought a male pup. A third Weimaraner pup came to Williamsport at about the same time, the purchase of a sports-minded barber of the community.

Ever since these three dog lovers have talked Weimaraners whenever they get together, which is frequently because of their mutual interest in the breed and also for the purpose of comparing the development of their respective dogs.

These Weimaraners, a light mouse-grey in color, weigh a bit more than 75 pounds and stand about two and a half feet when mature. In puppyhood their eyes are a faded-out blueish-grey and often amber when full grown. They have a long nose, droopy ears, and a tail cut off about four inches from the body.

The Weimaraner is said to be the best all-around gun dog in the entire world. In Germany, where the breed was developed about 150 years ago by German nobles, it was used largely for hunting wild boars and stag. It also developed as an excellent grouse dog and was desirable for all upland game pursuit.

It quickly learns to point and retrieve and will hunt rabbits if it happens to fall into the hands of a hunter who prefers rabbit chases to bird shooting.

Having the blood of bloodhounds in its veins, the Weimaraner has been used with remarkable results in tracing lost human beings whose trail could not be picked up by any other dog.

It is estimated there are but 1,500 Weimaraner owners in the United States today, all of whom are necessarily members of the Weimaraner Club of America, for nobody can purchase a dog of this breed unless he is enrolled in the club and has pledged himself to abide by its rules and regulations.

The greatest of care is taken in breeding, and when pups which are in the slightest off-color are born, they must be destroyed by the owners of the mother dogs. Also, if Weimaraners turn vicious in adult life the club rules provide they are to be done away with.

Price of pups offered for sale by Weimaraner breeders is one reason for the comparative scarcity of these dogs in the United States, for it is seldom one can be had for less than $300. However, there are some dealers who offer Weimaraners at prices below this accepted minimum, but such pups seldom have the impressive pedigree which is boasted by the animals which bring the larger prices.

The German noblemen interested in developing an exclusive sporting dog kept the Weimaraner pure bred for more than a century. They eventually developed an all-around dog which both points and retrieves birds.

However, the Weimaraner is so versatile he can be quickly trained to hunt wolves, coyotes, mountain lions, wildcats, wild boar, and bear. These remarkable dogs are at home in the



Rex, as a puppy, when he was welcomed into the Barnes household by four-year-old Frankie.

water and will retrieve birds under any climatic conditions.

The great dogs with light-colored eyes and solid grey color are such a picture of alert beauty that they attract attention everywhere they appear. It is common for Lee and his two Weimaraner-owning friends to be stopped on the street by dog lovers who want to know about their handsome puppies and stand off to admire them or come close to fondle the dogs.

The Weimaraner has a head that is long and aristocratic. It has a rather prominent occipital bone and trumpets which are set well back, beginning at the back of the eye sockets.

The ideal Weimaraner is a bit longer than it is high with a body indicating lithe strength. The back is strong and slopes very slightly from the withers. The forechest is well developed and with no hollowness, while the shoulders are well laid on and tight. The chest is deep and capacious for heart and lungs.

In color the dogs are all shades of grey to taupe often blending to a lighter shade on head and ears. White markings on the chest and toes are allowable, but at no other place on the body. Any yellow tinge in the white markings is frowned upon by your confirmed stickler for Weimaraner perfection.

Lee's dog, Rex, at six months weighed about 60 pounds and yet obviously was nothing but a puppy, for the Weimaraners physically developed slowly.

Rex was almost unbelievably intelligent at the age of six months and had learned many things most mature dogs have not mastered. It was apparent he was pretty much a "one man dog," for orders or demands by others while he was under Lee's command were entirely ignored.

When he was four and a half months old, Rex would sit at his master's command and remain

motionless in this position until told he could leave his sitting position.

The young Weimaraner's remarkable sense of smell was demonstrated at the same early age. Lee would permit Rex to smell his billfold and then would carefully hide the purse somewhere in his home. Upon the command to go fetch, Rex would go in search of the pocketbook and in an unbelievably short time would locate the article bearing his master's scent.

A game of hide and seek also was much enjoyed by the intelligent Rex. Lee would hide somewhere in his home and his wife would command Rex to find him. Invariably the pup would go instantly to Lee's hiding place.

The training of Rex as a hunting dog, for which use Lee bought the Weimaraner, was begun at an early age. Pigeons with their flight feathers clipped were used to teach Rex to retrieve. The birds were thrown into the air by the young dog's owner and would manage to fly 40 or 50 yards before alighting.

The Weimaraner pup immediately grasped what was required of him and retrieved the pigeons from the beginning. Under Lee's careful coaching, Rex handled the live pigeons carefully and held them loosely in his powerful jaws as he returned them to his master.

These accomplishments at a tender dog age are understandable when it is known that a six-month-old Weimaraner took top place in an obediance test at a dog show where top-ranking dogs of virtually all breeds were entered.

Weimaraners, doubtless due to the strain of bloodhound in them, have been used with remarkable results in tracing lost persons. In the case of a small boy who had disappeared several days before and who had been sought in vain by people using trained dogs, a Weimaraner followed

Seven-month-old Rex on the day he won first place among Weimaraners entered in the Bald Eagle Kennel Club Show in Williamsport.



unerringly the child's footsteps to the edge of the water into which he had ventured with fatal results. Another Weimaraner was used with equally satisfactory results in tracing an elderly woman who had disappeared from sight.

For hunting, Weimaraners appear to have no peers. There are authenticated stories from sportsmen who have used them to retrieve wild ducks, to trail cougars, and to hunt game birds of virtually all kinds. The results have all been the same—just plain remarkable!

It has been pretty well established that the Wiemaraners originated in the very early 1800s in Weimar, not far from Berlin. Investigation in Germany has disclosed that the breed sprang from the Red Schweisshunde, famous in Germany for many years for its keen sense of scent. Just what breed of dogs was crossed in the long process of bringing into being the Weimaraner has never been definitely established, but the handsome "grey ghosts" eventually became the pride and boast of the German Weimaraner Club.

Until the vicissitudes of armed strife reduced Germany to a vassal state and made its every holding a prize of the conqueror, no Weimaranèrs were permitted to leave that country.

More than ten years after the close of World War One, an American dog fancier brought to this country from Germany a pair of the famous German dogs. Later he acquired additional Weimaraners and founded the breeding stock in the United States.

Nine years ago a club was formed in the United States, and a constitution and by-laws adopted. Boston was the first meeting place of this club back in 1943. The 20 original members elected officers at this organization meeting.

The American Kennel Club shortly recognized the breed, the first entry in a bench show being at Westminster in 1943. The club's growth was slow until three years after it was formed. Then the demands for admission to membership on the part of those desirous of owning Weimaraners became so heavy it was found difficult to handle all the correspondence, so two years ago an office was opened and a secretary employed.

Lee says the purpose of the Weimaraner club is to weld together owners and breeders interested only in maintaining pure-bred animals while developing the natural abilities of the breed. Like Lee, most of those owning Weimaraners acquired them for hunting purposes.

The American club, Lee learned when he contacted a dealer concerning the purchase of a puppy, controls matters in the United States by careful investigation of all prospective purchasers. No individual can buy a Weimaraner unless he is sponsored by a member of the club, has submitted character references, and pledges himself to use the dog for hunting. All this, Lee says, is intended to protect the breed and keep it pure.

Leon Arpin, from whom Lee bought his Rex, is especially proud of the pup's father, Rocky. Rex's dad was entirely untrained and had never seen a quail when Arpin took him south to test him on Bobwhites.

The southerner who was Arpin's host was amazed when Rocky cooperated with his field-trial pointers and soon began taking his turn pointing when he found birds and backing the other dogs when they beat him to the scent.

The skeptical dog fancier was amazed a few hours later when Rocky refused to honor a couple of points the other dogs made and the points turned out to be false.

What pleases Lee almost as much as the development his Rex has shown in learning the tricks and science of ferreting out game birds is the pup's evident enjoyment in the companionship of Lee's two small sons.

The young Weimaraner is a constant companion of four-year-old Frankie and two-year-old Jeff. No matter how they maul him or how roughly they play, Rex will not close his powerful jaws on them other than gently. And young though he is, he has given unmistakable evidence that it will go hard with any individual who harms Frankie or Jeff in his presence.

Rex won his first honors as a show dog at the annual dog show of the Bald Eagle Kennel Club in Williamsport when, in competition with 500 other dogs of virtually every breed, he advanced to the judging for the best in show. At the time he was only seven months old.

It was Rex's first dog show and also the first show for his extremely nervous and inexperienced master, but the young Weimaraner conducted himself like an old hand at the game and won first honors in his breed with complete nonchalance.

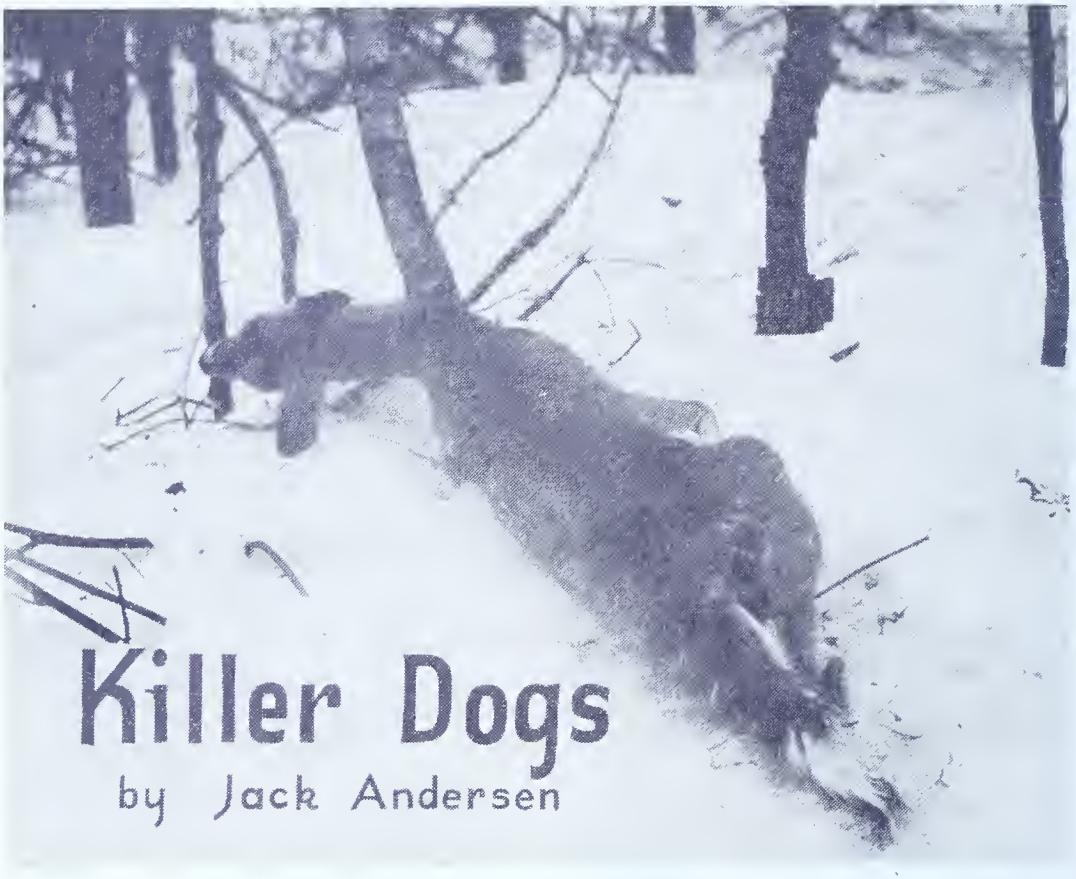
The Barnes dog was pitted against Weimaraners from all parts of the East and ended up with two silver cups, five blue ribbons, and a cash award as he proved the best "Grey Ghost" in the field. He swept everything before him in competition which included mature Weimaraners which had been shown by experienced handlers in dog shows throughout the East.

When he acquired Rex, Lee had no intention whatever of showing him in dog exhibitions, but the puppy developed so remarkably and is so intelligent his master entered him in the Bald Eagle Kennel Club show more because of his pride in the young dog than in the thought he would acquit himself in such a manner as to win honors.

. . . *The End*

Lee Barnes and his young Weimaraner





Killer Dogs

by Jack Andersen

MARCH brings the promise of green and growing things; but to the three gaunt does that flagged their white tails and began a wild run near Mount Pocono, it brought a new menace: five yapping mongrel dogs.

Motorists helplessly watched from U. S. Highway 940 when, by the lonely shores of Stillwater Lake, these weary does turned and faced their tormentors. The does were humps of bone and dirty brown and gray hair. They were in no condition to fight, and the dogs, sensing a quick kill, snapped and snarled in narrowing circles.

A woman among the motorists clutched her child and ran into the family car, fearing the dogs were wolves. Actually, three of the dogs ate daily from a nearby resident's dish, and the other two had been dropped along busy highway 611 by motorists. Now, facing the three nervous milling does, wild instincts were excited. The dogs *were* as dangerous as wolves.

One mongrel darted in close enough to get hair in his mouth. The doe, screeching, tried to strike out, lost her balance, and fell in a pitiful, helpless heap. The spectators moaned, and one man jumped from his car and hunted the highway shoulders for stones.

But stones were no match for these killers. A last swift leap, and the mongrel's yapping throttled to a low savage growl as his teeth sank into flesh. The other dogs reacted like pack-members. They dashed close to the remaining does, where they stiffened, bristled, and stepped up their barking.

It looked like three dead does. And it would have been, except for an alert motorist, who at first sight of the dogs had raced to Mount Pocono and aroused a Game Protec-

tor who arrived on the scene as the dog completed the first deer-kill.

The Game Protector killed the dogs with high-powered rifle, and he also killed a second doe to end her suffering. That third doe limped into the Pocono wilderness, perhaps to live and perhaps to die. A tragedy of the Wild was ended.

This is no unusual report from the Pocono district. Game Protector Failor, who happens to patrol sections of Monroe County which have numerous crossroads settlements, issues dozens of reports each Spring. Kills by a single dog are as high as fourteen. In Pike County, where deer are also common but population more sparse, the story isn't much different.

"The dogs come from three main sources," Game Protector John Lohmann, of Milford (Pike County) told us. "Parents buy a dog for the child. The boy grows old enough to hunt other boys to play with, and the dog is left to himself. Not nice to think about, but true.

"Then there's the cottagers. They come up here to spend a vacation. They let their hounds run loose and let them roam too far so they get lost.

"The third source is the worst. A guy wants to get rid of his dog. Strange? There's a lot such characters. He pokes the job on a pal. 'Goin' through the woods?' he says. 'Do me a favor. When you get to a nice lonely spot dump off this mongrel for me.' Believe me, there are dozens of dogs dropped from autos and trucks each year. And these dogs, prodded by instincts of self-preservation run wild."

Game Protector Lohmann told us of the two renegades of Egypt Mountain. These two hounds, one chow-police mixture, one airedale-chow, were put on their own by a coal trucker in midwinter and found shelter in a farmer's barn during the



John Lohmann Photo

Frank Brink came too late to save this doe which was run down by a mongrel dog. The doe died just after this photo was taken.



Matamoras sportsmen who tramped the Poconos to feed deer and capture wild dogs.

deep snows. The farmer was happy when Spring came and the dogs started to roam.

Before the last snows melted, Lohmann found weakened deer that had been felled and ripped into shreds. He came to know the killers by a defective left front paw of the chow-police dog. Night and day, the Egypt Mountain section echoed to the howls of the killer-dogs. Farmers drifted into Milford with angry reports. One deer clawed to death. Two deer killed. At last, the count stood at fourteen.

The countryside was aroused. Sportsmen of Matamoras and Milford took the trail, and a day of long tramping and missed long shots assured them that these dogs had learned the tricks of the wilderness. Before a second chase could be organized, Game Protector Lohmann fooled the chow-police with a fox bait-set and ended the dog's life with a bullet. The game protector said: "He was the meanest killer I ever saw in a steel trap. He was dripping saliva and charged me with a growl that would have chilled like ice if I didn't have my .270 Winchester."

That same day, Bill Jacobs, sportsman, brought down the second killer with a load of 16 gauge buckshot. But not until after an estimated twenty deer had been killed. All because somebody wanted to get rid of his dogs!

"A dog who is a deer runner can follow a trail faster than the best beagle hound," Game Protector Lohmann declared. "An' the secret of that is, he ain't following ground scent, like a beagle after a cottontail. The deer urinate on the tufts of hair along their legs, making a strong scent and the dogs trail at full speed from brush smell rather than ground."

According to game protectors, the worst deer killers are mixtures of chow, police, airedale, airedale and hound, and airedale and police. These dogs are Man's best friends until instinct prods them as it prodded five hounds, some of beagle blood but mostly mongrel, in March, 1948. That was a day when strange death rode Highway 42 below Port Jervis.

Highway 42 travels a winding,

mountainous course along the Delaware River. Lofty rock crags and scraggy evergreens frown at its concrete face. Motorists must travel slowly in Winter, which was fortunate for a rural mail carrier, threading his car toward Port Jervis in a late season snow squall.

As the mail carrier rounded a curve, his eyes widened at an appalling sight—deer clearing the Hawk's Nest crags like suicides, high above the highway, screaming, dropping among the white falling flakes, crashing to their deaths. One, two, three deer; then a pause; then the fourth and fifth deer. The mail carrier jerked his car to a halt.

A helpless feeling overpowered him as he raced toward the deer. And as he ran, he heard the barking of dogs far up the crags. He was an old hunter, and an old hunter loves dearly the cry of dogs among forest hills. But that day, listening, watching the dying gasps of the deer, his muscles tightened.

A short while later, Frank Ellison trucked the bodies of the deer into Port Jervis. One buck was among them. They were a fuzzy-haired, spindling lot, unfit for food. But as Game Protector Failor says: "The deer get thin—they get plenty thin. But most of them would get through the Winter. It's the dogs that put the finishing touches on them in Spring."

Another game protector lists the three greatest deer killers in this order: starvation, dogs, and highways. All protectors agreed that one dog could kill off an entire herd that had suffered through a hard Winter, either by chasing them to death or tearing them down by fang and claw.

Art Frantz, former game protector of the Poconos, came across an odd tragedy of the wilderness in a remote Bushkill section. He was called into the district by a man who reported a large mongrel running deer, and while tramping the forest, found a large buck caught in the crotch of a tree. This deer, probably startled by the yelping mongrel, had attempted to leap between the several trunks of the tree and snagged himself. He must have suffered a slow, horrible death.

Your game protectors stressed the fact that an any time of the year, dogs must be kept under control in deer country, especially in late Winter and early Spring. Any dog is a potential killer.

Once a dog has run deer, he has a life-long habit that is nearly impossible to cure. "We tell people in the deer country year after year," Game Protector Failor said. "But most sportsmen don't know what's going on, because nothing is published about it. We're losing a total number of deer that would shock the hunter if he gave it a thought—and all because of Man's thoughtless relationship with dogs. The thing gets worse each year and I think a campaign of public enlightenment would be in order."

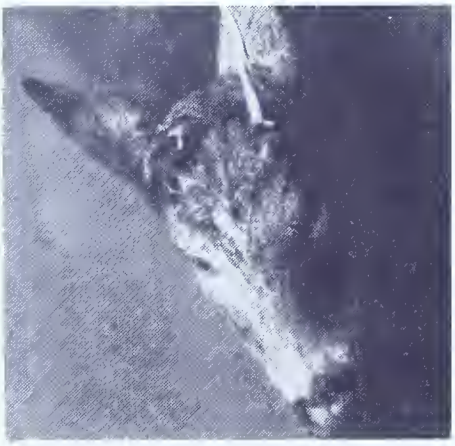
Here, we hope, is the start of this campaign.

. . . *The End*

TURKEY FEEDING—SPORTSMEN'S PROJECT

There have been many heartening reports that sportsmen have fed wild turkeys this winter in areas where these birds need ear corn as supplemental food. In recent weeks, deep snow and crust have prevented their reaching natural sustenance. Some hardy outdoorsmen has "packed in" on snowshoes or skis; others used toboggans, jeeps and even tractors to reach turkey flocks.

Game Protectors welcome this assistance in the tremendous task of feeding the wide-spread turkey flock. They say that hunters who observed wild turkeys while seeking big game will perform a real service by reporting their location to game officers. This may be the means of locating a new flock that might otherwise suffer loss in the critical winter season.





Look closely at the two pictures above. The one on the left is that of a yearling buck killed in Cameron County during the 1950 open season. The one on the right is that of a yearling buck killed in Allegheny County. WHICH DO YOU PREFER?

THE CONDITION OF OUR DEER

By Stanley E. Forbes**

Workers of the Commission's Wildlife Research Division were afield during the 1950 deer seasons getting up-to-date information on the condition of Pennsylvania's deer herd. More than 500 deer were weighed, aged and further examined in an effort to obtain as much information as possible.

One vivid picture emerging from these investigations indicates that a great difference in antler development exists between yearling bucks (born in May and June of 1949) shot in counties where there is ample food of good quality and those shot in areas where there is a definite food shortage.

In order to illustrate this point, let's consider two extreme conditions—those found in Allegheny County and those present in Cameron County.

In Allegheny County, five yearling bucks were examined. ALL WERE LEGAL ANTLERED BUCKS. They averaged 110 pounds hog-dressed.

In Cameron County, eleven yearling bucks were examined. ONLY ONE WAS A LEGAL ANTLERED BUCK. They averaged 87.7 pounds hog-dressed. Quite a difference in racks and body weights!

To fully realize the contrast in rack development, let's look at the following table:

Antler Development of 16 Yearling Bucks

Number of Points	8	7	6	5	4	3	2*
Allegheny County	3	1	0	1	--	--	--
Cameron County	--	--	--	--	--	1	10

*Illegal "Spikes"

YEARLING BUCKS NEED NOT BE "SPIKES"
"SPIKES" INDICATE POOR FOOD CONDITIONS

**Editor's Note: At its January meeting, the Pennsylvania Game Commission approved the inauguration of a comprehensive study of the white-tailed deer in Pennsylvania. Mr. Stanley E. Forbes was appointed to take charge of this investigation. This is the first in a series of articles to be written by Mr. Forbes for publication in Game News.

Centre County Center of The Commonwealth

Seventh In a Series

Note: This center sheet can be removed, if desired, by loosening the two staples.

CENTRE County, which in area ranks fourth largest among the counties of Pennsylvania, is located in the geographic center of the State. When organized in 1800, its territory was made up of generous parts taken from old Northumberland, Mifflin, Huntingdon and Lycoming Counties. The original area has since been dimished to form other counties.

Topography

The whole land surface of the county is elevated and is also broken by several distinct mountain ranges having a general southwesterly course. These mountains outline splendid valleys which in most cases bear the same names as the adjacent ridges: Brush, Nittany, Penns and Bald Eagle. The valley lands are largely limestone and are highly fertile, contributing an important element to the economic wealth of the county.

Land Area

The county contains 713,984 acres of which 508,649 acres are forested and 205,335 acres are in non-forest land. There are 236,168 acres in farms. There are 174,424 acres of publicly owned land including 46,629 acres in State Game Lands and 127,364 acres in State Forest Land.

Transportation

Railroad transportation is furnished by the Pennsylvania, the New York Central, and the Bellefonte Central lines. The 28th Division Highway (U.S. 322), U. S. Route 220, and Pennsylvania Route 53 traverse the county which has 579 miles of improved State highways.

District Game Protectors

Clyde W. Decker, R. D. 1, Philipsburg has jurisdiction over Rush, Taylor, Worth and Huston townships.

Thomas A. Mosier, 251 N. Spring St., Bellefonte, has jurisdiction over Burnside, Snow Shoe, Union, Boggs, Benner and Spring townships.

Sam B. Reed, P. O. Box 95, Pine Grove Mills, has jurisdiction over Half Moon, Patton, Ferguson, College, Harris and Potter townships.

Joseph W. Kistner, P. O. Box 94, Howard has jurisdiction over Liberty, Howard, Marion, Walker, Gregg, Miles, Penn and Harnes townships.

Fish Warden

David Dahlgren, Philipsburg, has jurisdiction over the county.

District Foresters

Harry Miller, Petersburg; David Nace, Milroy; John Wilson, Clearfield; R. B. Winter, Mifflinburg, and Paul Duck, Renova have jurisdiction over State Forest Land in the county.

Agriculture

Farming is conducted largely in the broad limestone valleys. Centre County ranks high in the production of oats and swine. State College for years has been the mecca for farmers of the State for inspection of the college farms and agricultural experiments.

Industry

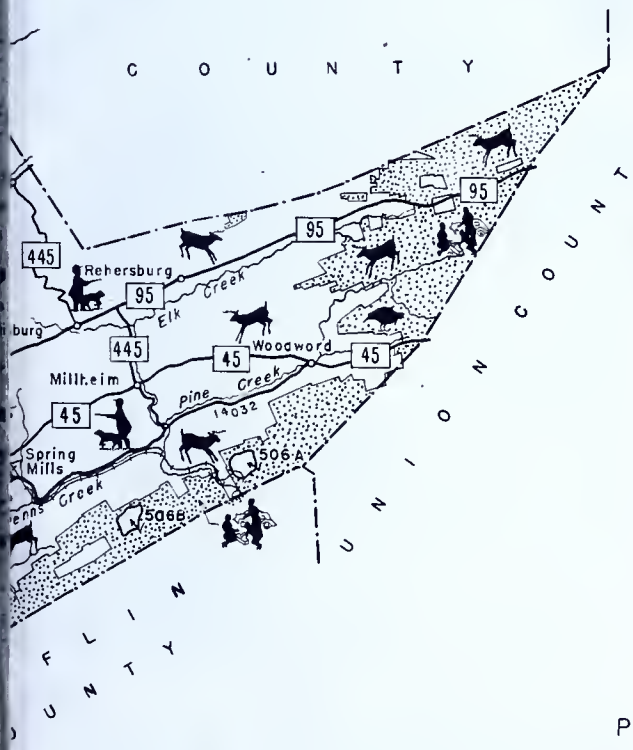
The principal classes of industry are metals and mental products; clay, glass and stone products; mine and quarry products.


CLEARFIELD COUNTY
CLINTON COUNTY
BLAIR COUNTY
HUNTINGDON COUNTY
CAMBRIA COUNTY
SUSQUEHANNA RIVER
WEST BRANCH
Orviston
Beech Creek
Blanchard
Kata
Clarence
N.Y.C.R.R.
PENNA. R.R.
Mashannon
Snow Shoe
Howard
Jacksonville
Wingate
Milesburg
Zion
Bellefonte
Philipsburg
Unionville
Bald Eagle Creek
CENTRAL R.R.
Pleasant Gap
Centre Hall
Julian
Martha Furnace
BELLEFONTE
Waddle
Lemant
Tusseyville
Osceola
Sandy Ridge
Cold Stream
Mashannon Creek
Black Creek
Port Matilda
State College
Oak Hall
Boalsburg
Hannah
Stormstown
Pine Grove Mills
Gatesburg
Baileyville
Tyrone
NO. 100
NO. 33
NO. 60
NO. 103
NO. 92
NO. 17G
NO. 17E
879
144
53
504
322
220
550
350
46
250
45
545
63
95
150
64
509-G



···KEY···

- County Seat.
- Form Game Project.
- State Forest Fire. Observation Tower.
- Game Protector's Headquarters.
- Bear Hunting.
- Deer Hunting.
- Wild Turkey Hunting.
- Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream.
- State Forest Land.
- State Game Land.
- 506-A Primary State Game Refuge on State Forest Land.
- State Park.
- State Fish Hatchery.
- 53 Pennsylvania Route Number.
- 220 U.S. Highway Route Number.
- 14032 Legislative Route Number.
- Township Route. (T-342)



PENNSYLVANIA
GAME COMMISSION

CENTRE COUNTY

PENNSYLVANIA

Scale in miles

L.A.M.

Recreation-Hunting

Centre County is noted for its wide diversity of hunting, practically every game animal of Pennsylvania being found within its borders. Six tracts of State Game Lands are located in the county—Number 33 near Port Matilda containing 16,585 acres; Number 60 near Morann containing 6,767 acres; Number 92 near Howard containing 5,030 acres; Number 100 near Snow Shoe containing 3,775 acres; Number 103 near Unionville containing 8,632 acres; and Number 176 near State College containing 5,838 acres.

Recreation-Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stocked waters) include: Bald Eagle Creek, brown and rainbow trout, Milesburg, 18 mi. Beech Creek, S. Fork, brook trout, Snow Shoe, 5 mi., Benner Run, brook trout, Unionville, 4 mi., Big Fill Run, brook and rainbow trout, Bald Eagle, 3 mi., Big Run, W. Br., brook trout, Snow Shoe, 1 mi., Black Bear Run, brook trout, Winburne, 3 mi., Cedar Creek, brook trout, Boalsburg, 3 mi., Cold Stream Run, brook trout, Philipsburg, 4 mi., Elk Creek, brook, brown and rainbow trout, Millheim, 7 mi., Fields Run, brook trout, Snow Shoe, 1 mi., Little Fishing Creek, brook trout, Mingoville, 10 mi., Flat Rock Creek, brook trout, Port Matilda, 7 mi., Galbraiths Gap Run, brook trout, Boalsburg, 3 mi., Green Valley Dam, brook trout, Pleasant Gap, 2 A., Laurel Run, brook trout, Spring Mills, 3 mi., Lick Run, brook trout, Howard, 3 mi., Logan Branch, brook and rainbow trout, Bellefonte, 4 mi., Marsh Creek, brown trout, Howard, 6 mi., Little Moshannon Creek, brown and rainbow trout, Snow Shoe, 12 mi., Moshannon Creek, Mountain Branch, brook trout, Houtzdale, 4 mi., Penns Creek, brook, brown and rainbow trout, Spring Mills, 15 mi., Pine Creek, brook and brown trout, Woodward, 10 mi., Poe Valley Dam, rainbow trout, Potters Mills, 27 A., Rock Run, brook trout, Snow Shoe, 4 mi., Roosevelt Dam, rainbow trout, Potters Mills, 3 A., Big Sandy Run, brook trout, Snow Shoe, 1 mi., Little Sandy Run, brook trout, Snow Shoe, 1 mi., Sinking Creek, brook and brown trout, Potters Mills, 11 mi., Six Mile Run, brook trout, Philipsburg, 5 mi., Spring Creek, brook and rainbow trout, Bellefonte, 12 mi., Spruce Creek, brown and rainbow trout, Pine Grove Mills, 3 mi., Sterling Run, brook trout, Snow Shoe, 3 mi., Wallace Run, brook trout, Milesburg, 4 mi., White Deer Creek, brown trout, Livonia, 8 mi., Wolf Run, brook trout, Snow Shoe, 2 mi., Yost Run, brook trout, Snow Shoe, 1 mi., Bald Eagle Creek, blackbass, Beech Creek, 2 mi.

Fisherman's Paradise, nationally famed project maintained by the Pennsylvania Fish Commission, is located near Bellefonte.

State Recreation Areas

Black Moshannon State Park contains a 260 acre lake which provides good swimming, boating and fishing. Facilities are also provided for picnicking, skeet shooting and tent or trailer camping. One, two or three-room cabins may be rented by the week. The Park is located 10 miles east of Philipsburg on a hard surfaced road. Poe Valley State Park, an area of 500 acres in a remote mountain valley, has special appeal to those who like isolation in the great outdoors. A sparkling lake nestles at the foot of the mountain, offering swimming and boating. Facilities are available for picnicking and camping. Fishing is good. The Park is located about six miles south of Coburn and may be reached over improved State Forest Roads. Bear Meadows Park located near Boalsburg has hiking and picnicking facilities. Voneida State Forest Picnic Area located near Woodward on Route 45 offers facilities for hiking and picnicking.



Million Dollar Conseroation Triumph

by Roger M. Latham

(Continued From February Issue)

IT SHOULD be understood that all beavers do not build dams and live in lodges. Many "bank" beavers, as they are called, spend their entire lives on the larger streams without ever attempting to build a dam. They occupy burrows in the banks with underwater entrances. These seldom exceed 10 to 15 feet in length but have been known to be 40 to 50 feet long. The Indians, during the early days of the Hudson Bay Company, had an unique way of catching these bank beavers. In comparatively quiet water, the Indians were reputed to be able to tell whether a bank den was occupied by watching the underwater entrance. If a beaver were present, the water lying in the entrance was supposed to show a slight movement in and out as the beaver breathed. This was detected by the corresponding movement of rootlets or other submerged



Hal Harrison Photo

The average beaver colony includes about five or six animals, but may range as high as twelve. Here Pennsylvania's P-R Mammal Survey Leader, Neil Richmond, studies a trapped beaver in the Conneaut Marshes, Crawford County.

vegetation at the mouth of the burrow. Once the Indian was satisfied that a beaver was at home, he drove a semicircular ring of stakes in the water around the entrance. Then with some pounding and probing with a sharp stick over the den, the beaver was frightened into the trap where it was readily killed. This method was almost sure-fire and did not require the use of cumbersome steel traps or snares.

Bark, Buds and Twigs

The food of the beaver is composed for the most part of the bark, buds, and twigs of deciduous trees. In some parts of the country where hardwoods are relatively unavailable, they may fell and eat certain conifers. Hemlocks, balsam fir, white cedar and others are occasionally utilized, but these form only a small part of the total. Aspens and cottonwoods are the universally preferred woods, and it has been suggested that the primary range of the beaver in North America coincides fairly well with that of the aspens. Following the poplars, the birches, wild cherries, alders, and others are commonly used. In the summer time such things as aquatic plants, grasses, sedges, roots, berries, and other vegetation are added to break the monotony of the bark and wood diet.

The beaver possesses several anatomical and psysiological adaptations which permit it to eat and digest this predominantly cellulose diet. Because of the incessant wear from felling trees and gnawing bark, the incisors of the animal grow constantly. The front surfaces of these teeth are extremely hard but the teeth grow progressively softer toward the back surface. Consequently, as the teeth are worn the back surfaces wear down faster than the front surfaces and the result is a very sharp and efficient

chisel. If one incisor is lost or broken, the opposing incisor will grow abnormally and may eventually form a complete circle outside the mouth. Because digestion of cellulose is such a complicated process, the small intestine of an adult beaver is about 25 feet long. This length is necessary for the release of the vegetable gums, sugars, and albumins by bacterial action.

Each beaver, under normal circumstances, will cut between 200 and 300 trees a year. Most of these will be less than 8 inches in diameter and the great bulk around 3 to 4 inches. However, occasionally very large trees are felled, and the largest on record was a cottonwood in Montana which measured 46 inches across the stump.

Usually only the limbs of larger trees are used for food and dam building because of the great weight of the trunk, but small trees may be entirely used. An old beaver can fell an aspen 3 or 4 inches in diameter, cut it into sections 4 to 8 feet long, and drag it to water in a single night. Yet in spite of this rapid cutting, one acre of aspen can support an average beaver colony for one to two and a half years.

In the fall, beavers reach their maximum activity in preparation for winter. Small poles and branches are piled into a huge heap which, because of its weight, sinks below the surface of the pond. This store of food remains green and palatable throughout the winter and is always available under the ice. The beaver can close its lips behind its cutting incisors and thereby is able to gnaw under water. This permits it to leave the lodge, swim to the storage pile, gnaw off a portion of a limb, and return to the lodge to eat it at its leisure. When eating bark from a branch, the "corn-on-the-cob" technique is used. The beaver sits up, holds the piece of wood in its front feet, and revolves it as the bark is removed.

Family Life

The average colony includes about five or six animals but may range as high as twelve. In Pennsylvania most beavers mate in January or February and the young are born in April and May. Litters are usually from two to five but rarely six or even eight have been reported. Since the female beaver possesses only four nipples, litters of more than four are probably the exception. Often baby beavers can be heard whimpering inside the lodge, and their cries have been described as resembling those of puppies or even of a human child. These kits, as the young are called, remain with the parents over the first year and until just before the second litter following is born. Thus, a beaver family during winter usually consists of the two parents, young of about one and a half years, and the young of the year. The old beavers drive the two-year olds from the dam during the early spring and these travel some distance, mate and start a new colony of their own. This is one of the chief reasons why they spread so rapidly when introduced into a new region.

Except for men, beavers have few natural enemies and may live to be ten to twenty years old. In Pennsylvania, bobcats, bears, and dogs are among the few animals which could attack and kill an adult beaver, although kits could be taken by smaller predators. Occasionally one gets killed when it accidentally gets crushed under the falling tree which it has just cut, but this does not appear to happen very often. Unlike most rodents, beavers apparently are non-cyclic and are relatively disease-free.

Beavers Below

As might be expected, the beaver is more at home in the water than on land. It swims at about four miles per hour, can swim a half mile underwater when frightened, and can remain submerged about seventeen

minutes before drowning. The nostrils and ears are equipped with valves which exclude the water when the animal is swimming beneath the surface. The front feet are not used at all in swimming but are curled tightly to the breast. The webbed hind feet provide the principal means of locomotion, but occasionally the tail is used as a scull when top speed is needed. The tail is used mainly as a rudder to keep the beaver travelling in a straight line when towing heavy poles. The well-known warning slap of the tail on the water, which sounds much like striking the water sharply with the flat side of a board, can be heard for a half mile on a quiet night.

Another interesting peculiarity of the beaver is its louse-catching claw. The second toenail on each hind foot is split lengthwise and appears to act as a fine-tooth comb for removing lice and other parasites from the fur. Each beaver, regardless of sex, possesses two large glands at the base of the tail called the castors. These provide a scent which apparently aid one beaver in recognizing another and may be somewhat important in the location of a mate and in holding a family intact. Dried beaver castors sell at about $6 and $7 per pound and the castoreum is used in the manufacture of perfumes, animal lures, and medicines.

Beavers are equally fascinating when they are removed from their native haunts and tamed as pets. Of course, Pennsylvania law does not permit the capture of young beavers, but in the past many were found accidentally or were intentionally dug out for this purpose. They become exceedingly tame and are comparatively clean and well-mannered. The Indians were particularly fond of this animal, and many Indian children romped and played with pet beavers.

PGC Photo by Batcheler

Beavers in addition to being an economic asset to our State are invaluable in flood control and, indirectly, to the hunter and angler. Trappers have harvested $680,000 in beaver fur alone.



In fact, it was not uncommon for an Indian squaw to nurse a tiny beaver at her breast along with her own baby.

A man and his son, who had reared a kit beaver in their home, permitted their pet to sleep between them in bed. About the middle of the night, every night, their bed companion would awaken and want something to eat. They kept fresh aspen branches near at hand for this purpose, and when it had finished eating it would crawl back into bed and go to sleep.

Nature's Flood Control Experts

Man benefits in still another way from the presence and activities of the beaver besides the fur values and recreational values already described. This is perhaps the most important single contribution of the beaver to man's economy. Its dam-building propensities on the headwaters of countless streams and rivers aids markedly in the conservation of water and the control of floods. The disastrous floods and serious scouring of stream beds following the removal of the timber from the mountains of Pennsylvania did not entirely result from the runoff from these denuded hills because, at about the same time, nature's flood control experts were also eliminated. It is entirely possible that many lives would have been saved in the state and property damage greatly reduced during the past fifty years had the headwaters of these flooding rivers and creeks been well populated with beavers.

Water conservation may not appear to be so important in Pennsylvania as in the arid parts of the West. Many examples of the beaver's value in dry regions have been cited. A report from Wisconsin tells of the lowering of the water table over three and one-half feet following the extirpation of the beaver. This had the effect of draining the swamps and the tamarack and the cedar began to die. In the words of the man who reported this example of the beaver's role in water conservation: "Since the beaver came back no tamarack or cedar is dying; their dams protect us from fires and floods; the waters of the country have been conserved, and we have had no drought. There are large lakes in this country which would be dry were it not for the works of beavers a century ago."



PGC Photo by Batcheler

Another interesting peculiarity of the beaver is its louse-catching claw. The second toenail on each hind foot is split lengthwise and appears to act as a fine-tooth comb for removing lice and other parasites from the fur.

Best Beavers—Live Beavers

Farther west, the water problem is more acute and the beaver of even greater value. One of the best examples of man's short-sightedness is provided by the experience on Silver Creek and its tributaries in eastern Oregon. During one winter, two trappers removed 600 beavers from this drainage. Following this clean sweep, ponds disappeared and grassy meadows dried up. Only a few hundred tons of pasturage were left out of the estimated 15,000 tons, worth $3 to $5 a ton, which provided forage for cattle when the beavers were present. Each year the water supply lessened; trout streams disappeared; ranchers had to dig wells and pump water for their stock; and farmers farther down the valley who had used the water from Silver Creek for irrigation watched their ranches revert to desert.

The trappers realized $5,000 or less for their furs, but the loss to the ranchers has run into hundreds of thousands of dollars. It is plain that a live beaver is worth many times as much as a dead beaver under circumstances like these.

Even here in Pennsylvania, many streams no longer flow during drought summers and trout are marooned and often die in stagnant pools. During droughts, city water supplies are often inadequate, wells and springs go dry, and crops, forage, and timber are all adversely affected. The presence of many beaver dams on suitable streams throughout the state aids considerably in alleviating drought problems.

In Pennsylvania, which is blessed with a substantial rainfall, the conservation of water and the raising of the water table by the beaver may not be quite so important as its flood-control service. Several large dams have been built in the past few years, at a staggering cost, for flood control in the state, and others are under construction or in the planning stage at the present time. In the final analysis, is one of these dams more beneficial for this purpose than 100 or 200 beaver dams? Do not these man-made reservoirs fill with silt in 50 to 100 years and lose much or all of their effectiveness? But new beaver dams appear every year and old ones are renewed when ponds fill with silt. Is this perhaps not the best and cheapest flood control method after all?

For Hunters and Anglers

And there is a final benefit which wildlife biologists call its ecological value. In a narrow sense, this refers to its effect upon other animal or plant life. For instance, the damming of a cold, densely shaded mountain stream nearly always causes an accelerated growth of the native brook trout. Many of these small streams never produced trout over four to seven inches in length, but with the addition of beaver dams anglers began to catch brookies nine to twelve inches long and sometimes even longer. This is because the warmer water and additional sunlight permit the reproduction and growth of greater numbers of insects, crustaceans, and minnows for trout food.

Wild ducks, particularly wood-ducks and mallards, utilize beaver dams for nesting, and during the fall migration these ponds are used as resting and feeding areas by hundreds of ducks and geese. Thus, many additional hours of fine waterfowling are provided the hunters of the state. Also, muskrats are nearly always associated with beaver ponds and add many dollars to the trapper's income.

All of the values and benefits enumerated have come from the efforts of those men who were entrusted with the preservation of Pennsylvania's wildlife; they have made it possible for the trappers of the state to pocket over 680,000 dollars; they have restored an animal which is invaluable in flood control and water conservation; they have provided the means by which many trout streams have produced larger fish; indirectly they have benefited the duck hunter; and finally they have reintroduced this unique animal along the mountain streams and lakes and added much to the charm and recreational appeal of "Penn's Woods"

With the Game Commission as its constant guardian, the beaver should remain a permanent attraction for all those who delight in the diverse animal life with which Pennsylvania is so generously endowed. And in the years to come, many millions of dollars worth of beavers should be harvested by the trappers of the state. The combined esthetic appeal, fur value, and water stabilizing capacity of this animal makes the successful restoration of the beaver truly a MILLION DOLLAR CONSERVATION TRIUMPH!

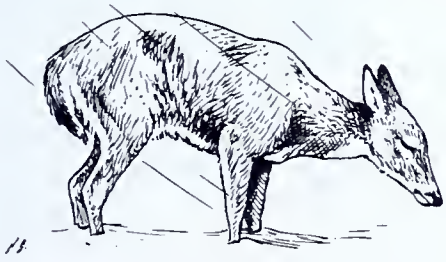
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Too Many Deer Results

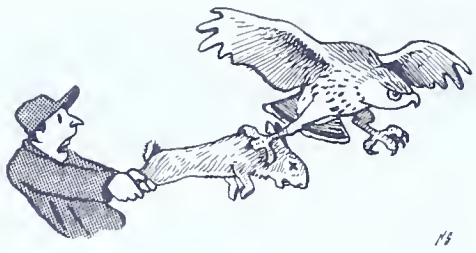
EMPORIUM — Since December 11th I have picked up 33 deer killed in my district by cars and trains. Twelve of them were bucks, three of whom would have been legal during deer season. Nine of the 33 deer killed were adults and 24 were last summer's fawns. One night during this 21 day period I was called out four times to pick up dead deer.

And I have never seen deer in the month of December as hungry as they were this year. I believe the reason is that we had plenty of summer and fall feed but with 15 to 20 inches of snow coming so early in the winter, the deer just could not adjust themselves. They came down to the farms and the roads trying to dig up frozen apples. Several of the deer I picked up were feeding along the berm of the highway between the concrete and the guard rails on frozen grass the snow plows had uncovered. If the winter holds to its December form, I feel certain that we will have one of the largest winter kills of deer in years. I have spent long hours on snowshoes traveling in some back sections of my district and the only feed for deer is either too high or too low. "They can't climb trees and they don't carry shovels." I have seen hundreds of places where they have tried to paw down through the snow to food that "might" be below but seldom do they ever get even a blade of grass. It would take thousands of man hours to cut browse enough to help feed them, just in one section of my district alone. I believe if any sportsman wants to spend several days with me next March and early April, I will be able to show him what overpopulation and overbrowsed deer country can do to a deer herd. —District Game Protector Norman Erickson, Emporium.



Wildlife Attraction

ALBION—Our winter feeding program is going along at full speed. On State Game Lands 101 we have doubled the number of feeding stations and in addition have 12 acres of standing corn scattered over the area. But as usual, feed is not the whole story. Soon after the first heavy snow we located eight ringneck pheasants grouped in two clumps of pine trees. We started putting feed there and for about two weeks fed all eight birds. One morning the spot was visited and only one pheasant was there to greet us. The rest were gone. Tracks in the snow told the story. Stray dogs had found the little flock and had scattered the birds, but, so far as we could see, had not killed any. Two days later all the birds were back again. Four days later we found a Great Horned Owl in a pole trap set about 30 feet from the birds and a week later two Horned Owls were caught, the farthest about 40 yards from the pheasants. To date the ringnecks are doing fine and we hope to keep them that way. But this little story merely shows that feeding is not enough. It also takes predator control to help our small game through a rough winter.— District Game Protector Clair Dinger, Albion.



Talented Talons

ANDREAS—In response to a telephone call I made a hurried trip to the headquarters of Deputy Game Protector Frank Baker of Andreas in late November. Upon arriving I found a hunter who had an odd but true story to tell. This fellow had been hunting and he eventually shot at and broke the legs on a rabbit. As the hunter approached, the rabbit squirmed and before either knew what was taking place, an immature Red-tailed Hawk swooped down and set his talons in the rabbit. In the few seconds that it took the hunter to reach the rabbit, the hawk was unable to unhook his talons. The hunter lifted the hawk up by the wings and brought both the bird and the bunny to Deputy Baker to prove his story. The man also had two mean gashes in his hand to prove that the rabbit was not the only one to feel the power of the bird's talons.—District Game Protector Billy Drasher, Tamaqua.

Toll On the Turnpike

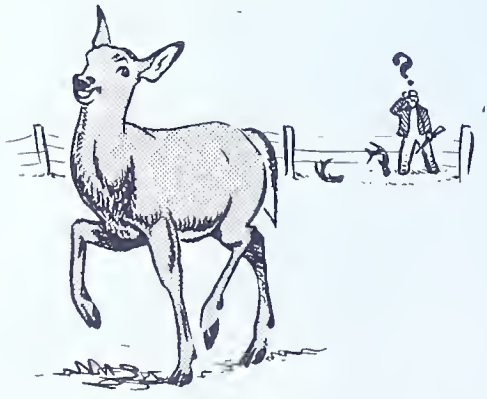
VALLEY FORGE—Since the opening of the eastern extension of the Pennsylvania Turnpike, 36 miles of which runs through my District, in mid-November, there have been 11 deer killed on this busy stretch of highway. The unusual aspect of this loss lies in the fact that the deer are generally killed at two known deer-crossings. Both crossings are between the North and South Valley Hills near Valley Forge. I believe these deer might be from the large herd that roams across Valley Forge Park.—District Game Protector Ralph Shank, Uwchland.

Best Buck Season In Years

BLAIN—The 1950 buck season in Perry County was one of the most successful in many years, if not the most successful. There were many nice deer taken, among them a 10 point buck which tipped the scales at 200 pounds hog-dressed and another that weighed 196 pounds hog-dressed. The former was killed by Charles Barnes of R. D., Ickesburg. Most hunters reported seeing more doe than they expected and several were of the opinion that perhaps an antlerless season would not have hurt the deer herd to any great extent.—District Game Protector Harold Russell, Blain.

Lost Legality

TITUSVILLE—During the buck season a Titusville hunter sighted a buck which he considered to be about an eight-pointer. He had a quick shot but missed. Pursuing the animal through a small woodlot, he emerged from the brush in time to see the buck run to the far side of a distant field and crawl beneath a strand of wire to disappear into another woodlot. The hunter followed the deer to the fence and there found a pair of antlers totalling eight points. The tracks were followed a short distance but then the man had to give up the chase when the "de-horned" buck's trail crossed a number of other fresh tracks.—Farm-Game Area Leader, Northwest Division, Titusville.



Nash, Smash and Trash

DINGMAN TOWNSHIP – Deer are still being killed by cars and trailer trucks at a good clip. Most of the carcasses are fit only for fox bait and bear feed after they run afoul of these vehicles. On the night of December 13th a doe deer caused the collision and demolition of a Nash sedan and a large trailer truck loaded with drugs at the Ludwig farm in Dingman Township on Route 209. The Nash sedan was going south and landed about 100 yards down the road in a field. The trailer truck wound up in the same field after the crawler had partly climbed a 15 foot dirt ramp. The deer lay just 75 yards south of the truck. I believe both vehicles were traveling at about 20 miles per hour. —District Game Protector John Lohman, Milford.

Good Greetings

CHARLEROI—A Christmas card can carry a variety of greetings and messages but last December I received one that was just a little out of the ordinary. The message which Mr. Wylie Smith wrote on his card to me expressed a feeling which I am sure the Commission and all sportsmen would like to see in every farmer. Mr. Smith's message was to the effect that he and his family were enjoying a parade of about 30 ringnecks every day as the birds went from their resting cover to their feeding grounds. He assured me that I did not have to worry about the birds as there was plenty of cover on his farm and that, since he had not been able to harvest his corn, there was plenty of feed. I considered this message an exception to the usual sentiment expressed by farmers about pheasants and it is comforting to know that there is at least one farmer who seems to enjoy the relationship he has with the Game Commission and the hunters.—District Game Protector John Troutman, Charleroi.



Rabbit Haven

PINE GROVE MILLS—During December the Superintendent of the Pennsylvania State College orchard told me they were going to burn a large brush pile that came from trimming and cutting in the orchard. There were some rabbits living in the pile and he suggested I live-trap them before the burning. I got some box traps and started in. In 10 days I trapped and released elsewhere 34 rabbits, all from the one brush pile. —District Game Protector Sam Reed, Pine Grove Mills.

Petitioning Trouble

CALEDONIA—Deputy Jack Crist was called upon one night in my absence to go to Caledonia to pick up a dead deer killed by a car. Upon arrival, he found that the deer had been hit by one car and knocked into the path of another, the second vehicle killing the animal. The first driver who struck the deer had left the scene, fearing prosecution. The second driver remained with the deer in the hope that he could collect damages on his demolished car. Upon hearing his tale of woe, Deputy Crist said, "I suppose you signed a deer petition?" The man with the damaged car replied, "I certainly did." Deputy Crist's response was, "Too bad, too bad. Let the sportsmen who stopped the doe season pay for your car." The man sure had the wind taken out of his sails and talked no more.—District Game Protector Clint Ganster, Chambersburg.

PENNSYLVANIA'S WILDLIFE



CONSERVATION HISTORY

CHAPTER VII

(Continued from February Issue)

Sands and Refuges

TWO separate experiences gave Phillips the idea of game refuges surrounded by public shooting grounds for Pennsylvania, and one of the most enthusiastic supporters of the plan was Dr. Kalbfus. Phillips was hunting grizzly bears in 1900 in the far west and noted how the bears high-tailed it for Yellowstone National Park when pursued, as though they knew that they would be safe there. On another occasion, when gunning over what is now the Pymatuning Reservoir refuge area, he observed that game fled to the impenetrable swampland there as a place of sanctuary. Why not, he reasoned, create such places of refuge in Pennsylvania's public shooting country?

As early as 1902 the Commission suggested in its report to the governor that limited portions of State forest lands might be set aside as refuges by the Department of Forestry. Since game management was not part of its function and because no funds for such purposes were available, the Forestry Department said, in effect, "No, Thanks."

Dr. Kalbfus, in his 1903 report, recommended setting apart a tract or tracts on forest reservations "as a harbor of refuge into which game birds of all kinds can retreat, and be safe from harm at all times. Surround these tracts with a single wire simply as a notice to hunters—and I am satisfied the increase of game, deer and birds will be very noticeable." He added that—"the Forestry Department seemed disposed to furnish the land, leaving the question of wire and other supplies up to the Commission and sportsmen." Dr. Kalbfus' plan to surround refuges with a single strand of wire is followed even today.

An act of 1905 permitted the Game Commission, with the consent of the Commissioner of Forestry, to locate within State forest reservations "public game preserves, for the protection and propagation of deer, wild turkey, partridge, quail, woodcock and wild pigeons."

It apparently was assumed that bears, squirrels, rabbits and such could take care of themselves. Six thousand dollars was appropriated to start and maintain the preserves.

The first game refuge was established at once in 1905 on state forest land in Clinton County. This area had been Dr. Kalbfus' own favorite hunting ground . . . and he was on hand on the opening morning of deer season to see how hunters felt about his cherished refuge.

As he tramped around the wire enclosing the refuge he came upon one of the local hunters of the region. This man was leaning with folded arms on a post, staring reflectively into the wired-off refuge and quite obviously thinking things over. His gun was standing nearby.

Doctor Kalbfus recognized the mountaineer, and he also noticed the tracks of a deer in the snow, going right into the refuge.

"Well, what do you think of the

refuge idea?" the Doctor asked.

The hunter answered indirectly: "I kicked up a buck near my place this morning," he said, "and I trailed him over to here." He nodded toward the tracks inside the wire. "I read the signs and got to thinking. Do they mean that everybody has to stay out?"

"Everybody," Dr. Kalbfus replied. "Nobody is allowed in there in hunting season except a game protector to see that no one's violating the law."

"In that case," the mountaineer replied as though he had made up his mind, "it's a good idea. That buck wasn't scared much. If he's safe inside that wire he won't run into the middle of the next county and he most likely will come back to where I started him this morning and I'll get another chance at him, maybe tomorrow. It'll help keep game right in our section."

He picked up his rifle and started away from the wire. "I won't be going inside the refuge," he said as though in answer to an unspoken question from the doctor.

Dr. Kalbfus knew then that the game refuge idea would be a success, because that particular hunter was known to have little respect for most "city-made" hunting laws, and if he approved, the refuge idea would strike others as all right.

So it turned out. The refuge system impressed all hunters as being so sensible and so important in maintaining a good game supply that the single strand of wire around thousands of acres of refuge land has become the most effective barrier in the country. Few persons are ever arrested for crossing it.

The Hunters Become Landowners

The purchase of public hunting lands, which started in 1920 after an authorizing act in 1919, is closely tied up with the game refuge system. In fact, the difficulty of finding suitable land for refuges led directly to the move to purchase public shooting grounds and refuge sites. The Commission ran into difficulties soon after it started to utilize state forest lands.

In the first place, it was hard to find areas where already leased permanent hunting camp sites didn't exist, and the Commission did not want its refuges to benefit only a fortunate few. Furthermore, most state forest lands were located only in the central and northern counties, making a widespread system of refuges impossible.

The legislature authorized the Commission to lease privately-owned lands for public shooting grounds and refuges in 1915 to overcome these difficulties, but the Commission and the sportsmen both soon realized that such leasing was far too expensive. In 1917, the Auxiliary Game Preserves Act authorized the Commission to lease, without paying rental, the hunting rights on private lands of 250 acres or more; in 1919 this was changed to allow the payment of rental, but no rentals have ever been paid for any auxiliary refuge projects.

It became quite obvious that outright ownership was necessary. Some accumulated funds were available to start the undertaking—which was authorized June 20, 1919, with the title of such lands purchased to be held by the Commission in the name of the Commonwealth. The first transaction was completed that year with the purchase of State Game Lands No. 25 in Elk County, which was acquired from the Wright Chemical Company. Other lands, particularly in the western part of the state were added at quickly as possible.

However, more money was needed. The $1 license fee didn't yield enough land purchase funds, so sportsmen advocated a license fee increase. The first "success" was a failure. The fee was increased in 1923 to $1.25, but the extra 25 cents was to be used for "extra printing costs and incidentals," and not for land purchase as the sportsmen hoped.



The first state game refuge was established in 1905 on state forest land in Clinton County. Today more than 200 such refuges are operated on State Game Lands and other public grounds.

The final 75-cent increase to bring the license fee to $2, with the increase earmarked for the purchase and maintenance of public hunting lands was put through in 1927.

The land purchase program went ahead by leaps and bounds thereafter and today the sportsmen, through their Commission, own outright 876,203 acres or more than one acre for each of the licensed hunters in 1950, and the Commission otherwise controls additional lands to bring the total acreage under its supervision to more than one million. The only real difficulty ever encountered in such purchases is that land is too expensive near the large cities where public shooting grounds are most needed. . . . *To Be Continued*

SPORTSMEN AND VIOLATORS

It may at times appear that representatives of the Game Commission ignore the true sportsman, emphasizing the game law violator and the poor sport unduly, but the Commission officers' enforcement duties naturally focus attention on the despicable acts of greedy and irresponsible hunters over the good deeds of "right guys." It may be that the sportsman-like acts of a high percentage of Pennsylvania's gunners are expected as manifestations of the true American spirit of fair play applied in the hunting field. It is certain, however, that fear of apprehension, induced by the knowledge that others have been caught and punished, deters many a would-be game violator. Therefore, individual misdeeds are publicized more often than are the laudable acts of hunters who conduct themselves properly.

On the matter of sportsmanship and honesty, an encouraging trend among hunters was noted this year, when many persons reported game they killed in error. By going to a game protector and turning in the dressed bird or animal mistakenly killed these hunters saved themselves three-quarters the usual penalty, preserved their future hunting privilege, retained their self-respect and proved themselves to be real sportsmen.



Of Cooperatives and Controls

Dear Sir:

Now that the 1950 hunting season is history, I should like to tell you how it looks from here.

Let me first express by sincere appreciation for the policies and programs the Commission has been carrying out during the years. I can find little sympathy for the old "die hards" who are distressed in the fact that there is less game for them today as compared to 20 years ago, but see no reason for it except that it is the Commission's fault. Some of these fellows can really conjure up great arguments. Personally, I wish to express appreciation to all responsible for the sport I find afield in spite of the ever increasing number of hunters and their relentless pursuit of game.

Specifically, let me evaluate the Cooperative Farm-Game Program. I personally see a great future in the popularizing of this program. When I see the posters on a Cooperator's land, I say to myself, "The Game Commission has interceded for me" and I can hunt relaxed with the feeling that I am welcome. Each of us should take time to thank the cooperating farmer for his attitude.

Then, too, I find personal benefit from the program of waterfowl restoration about which I have read in the GAME NEWS. When I lived on the farm 15 years ago, ducks were almost unheard of in my home community. Now as I hunt that same area, it is not uncommon to bag a wood, mallard or black duck. As for the GAME NEWS, I find it the magazine of the month and have discontinued all other subscriptions to sports magazines.

During the last season, however, I have been led to feel a growing concern for the problem of predator control. I have had opportunity to do a great deal of hunting and I am persuaded that the cottontail is losing ground, partly because of cleaner farming. This naturally gives all kinds of opportunity for the predator to destroy our game. A stocking program that is off-set by predators is of little value. I note that the Lehigh Fish and Game Association has voted to pay bounty on crows for the next three months. My concern is aroused by the fact that I killed two foxes this season simply walking upon them. How many did I disturb and not see?

For this reason I should like to strongly urge that the red fox be again placed on the bounty list. The fact is that grey foxes go "Scott" free because red foxes do not receive bounty. I have a friend who said, "I can't afford the time to set traps for foxes, catch reds, spend an hour to skin them and then get fifty cents for the hide." The result is he does not trap and the 10 and 20 gray foxes, as well as reds, which he usually would catch go on as breeding stock.

May I also state my reaction to the antlerless deer season. My opposition is not to the killing of does, but to the statewide season which seems to be unnecessary in some areas. I was gunning in Monroe County and, with many other folks, could not even find deer tracks. If does are to be killed, let us do it by special permits that will control the kill in a certain area and also make hunting safer, avoiding extreme concentration of men in small areas.

To summarize, let me say finally that nowhere do I get as much for $3.15 as I do from the privilege of

going afield to hunt. I pledge myself to do my part toward preserving this heritage, and I am sure you of the Commission do the same.

Very sincerely yours,

Rev. George L. Harting,
Allentown.

Taking Your Choice

Dear Sirs:

A small group of sportsmen have been discussing the situation that has prevailed for the past few years in regards to hunting and sportsmanship. We feel concerned at present, we feel alarmed about the future. We have decided that drastic action is both necessary and desirable, now.

The chief condition that adversely affects sportsmanship and a major condition that affects game supply is, we believe, the concentration of hunters. The population growth of Pennsylvania has been coupled with a steady decrease in the area of land available for hunting, a situation that will rapidly get very much worse, since the two phenomena are interdependent. As population increases, more hunters take to the field, while at the same time more hunting land is withdrawn for roads, airports industrial use and human use and habitation. Many of us, still young men, have hunted where now are houses, streets, airports and industrial plants. The greatest amount of land withdrawn from the hunting area, however, is farm land that is "posted" by farmers who are justifiably annoyed by the increasing number of hunters who become more deficient in sportsmanship as their numbers and concentration increase. Each farm that is made unavailable to hunters by trespass notices further increases the hunter concentration on the lands of more tolerant owners until their patience snaps—and so on, we fear, ad infinitum.

We believe that the first step toward correcting this situation must be a drastic restriction of hunting privileges, and we respectfully propose the following method:

Hunting should be divided into two categories: Big Game Hunting (bear and deer) and Small Game Hunting (rabbits, game birds and water fowl). A separate and distinct license should be issued for each category (without a reduction in fee) and each hunter may be permitted to choose one or the other, but not both. Non-resident hunting should be permitted for big game only, at present. Those who occupy land (in excess of 80 acres, let's say) and who permit hunting on said land could be granted one license free with the right perhaps to purchase the other (the farmer must be won over to the side of wildlife, hunting and conservation).

Bag limits and length of season should be revised in anticipation of a reduced number of hunters (and they spread over a wider area) that would be in the field on any one day. The Game Commission might, for instance, retain Dr. Gullup (or equivalent) to sample and predict from the sample data the probable number of hunters who would likely hunt in each of the two categories.

We believe that this plan, if carried out, would improve sportsmanship, greatly reduce hunter concentration and gun pressure (gun pressure would tend to work automatically as an increased number of hunters would be attracted to the hunting category in which the game was most plentiful). It would make hunting more fun for both the small game hunter with his dogs and the big game hunter with his hunting camp. It would enhance the possibility of public hunting for future generations. Game law enforcement would be made easier. The plan is compatible with conservation practices and it is founded on democratic principles.

Very truly yours,

F. K. Richter,
Selinsgrove.



Fourteenth Observance National Wildlife Restoration Week Announced For MARCH 18-24

The fourteenth annual National Wildlife Week this year falls in the week having the first day of Spring. The observance of this week is sponsored by the National Wildlife Federation and its affiliates in 40 States representing from two to three million nature lovers, sportsmen and conservationists.

National Wildlife Week is dedicated to the sensible management and use of wildlife to the mutual benefit of the public, sportsmen and natural resources, both animate and inanimate, of our country.

Since its inception by Presidential proclamation in 1938, National Wildlife Week has been used as a symbol to point up the urgency of conserving, protecting and restoring our fast diminishing store of natural resources. For decades, we have been digging deeper and farther into our storehouse of natural resources. Four billion tons of soil are being washed away each year; our forests are being cut down fifty percent faster each year than we grow them; our waters are getting more and more polluted and the drain on other resources is equally appalling.

This year, with a national emergency upon us, the need for a carefully planned program of wildlife protection is doubled. As the keystone to this program, we find conservation education. For too long has an apathetic public smiled tolerantly, sympathetically and discouragingly whenever a professional conservationist begins to tell of the far reaching values of conservation. This attitude is fostered to a very large extent by a complete misconception of the aims of conservationists. All too few have paused long enough to hear the true story of a balance between nature and man—between animals and forage areas—between forest land and flood areas—yes, between supply and demand as a business man would describe it. This then is the true aim of conservation—So to balance the supply of wildlife that it will neither grow so abundant as to destroy itself by impossible demands on space and forage nor to allow the demands of thoughtless hunters, business men, farmers or just plain you and me to reduce any of our Godgiven heritage to the point of annihilation.

In order to finance this educational program, the National Wildlife Federation produces each year a sheet of Wildlife Conservation Stamps.

A sheet of these full color stamps may be obtained for a contribution of one dollar or more, and they are distributed from the headquarters of the National Wildlife Federation, 3308 Fourteenth Street, N. W., Washington 10, D. C. Details relating to Wildlife Week activities may also be obtained at the above address.

Results of Wildfowl Banding Prove Its Desirability

Game Protector Ray Sickles, Linesville waterfowl expert, tells here about an unusual program on Pennsylvania's nearby waterfowl sanctuary.

"Between November 6 and November 22, exactly 1,000 wild ducks were trapped and banded at Pymatuning Refuge. Black ducks and mallards predominated, but a few pintails and redheads also were banded. This banding is done to determine the migration pattern of the waterfowl using Pymatuning Refuge.

"Last year, 750 ducks were banded at the refuge and already bands have been returned from the following states: Pennsylvania, Ohio, Michigan, Wisconsin, South Carolina, North Carolina, Tennessee, Georgia, Kentucky, Alabama, New Jersey, Florida, Illinois, Nebraska, Arkansas, Indiana, Missouri, and Virginia. Bands have been returned, also, from the Canadian Provinces of Ontario, Manitoba, and Saskatchewan. Some of the Canadian bands were recovered by Indians in remote sections and brought into the Hudson Bay outposts, where they were reported to U. S. Fish and Wildlife Service.

"The widespread recoveries of these bands continues to show that conservation of waterfowl is an international as well as national problem. It proves, also that a great majority of the puddling ducks that use Pymatuning Refuge cut back to the Mississippi flyway; that not all use the true Atlantic Flyway as we formerly thought."

NOTICE ON BOUNTY RATES
PENNSYLVANIA GAME COMMISSION
(Excerpt from Official Minutes, Pennsylvania Game Commission Meeting, January 4, 1951)
RESOLUTION

WHEREAS, After giving due consideration to the present predator population;

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101, of the Game Law, by resolution adopted this 4th day of January, 1951, hereby directs that for the period from June 1, 1951 to May 31, 1952, both inclusive, the bounty payments authorized for the birds and animals enumerated below, if killed in a wild state in any County of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

1. *Gray Fox*—$4.00 for each gray fox.
2. *Red Fox*—$4.00 for each red fox.
3. *Weasel*—$1.00 for each weasel.
4. *Great-horned Owl*—$5.00 for each great-horned owl, adult or fledgling.

BE IT FURTHER RESOLVED, That the foregoing resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the March and April issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

"I hereby certify the above to be a full, true and correct copy of the resolution establishing bounties on certain predators killed in a wild state within the Commonwealth from June 1, 1951 to May 31, 1952, notice of which action is published in accordance with the requirement of law.

Thos. D. Frye,
Executive Director
Pennsylvania Game Commission



Why Bow Hunting

By Thomas A. Forbes

WHY should a sportsman want to hunt with a bow when a gun offers a much better opportunity to kill game? Granted more game can be taken with a gun. Records compiled by the State of Michigan show that one in three gun hunters can expect to bag his deer, while only one in 24 archers will bring down his deer with a bow and arrow. However, why do more and more fishermen change from heavy poles and lines to fly fishing with light tackle. The answer in part is that sportsmen are seeking more fun in their sport by handicapping themselves. There is more thrill to a rising fish than to a dead one and tomorrow the fisherman can try his skill again.

Hunting seasons are of short duration and opportunities to engage in a hunt are limited to a few days in camp once a year. We work for our living and cannot arrange to be absent from our work for the period of the entire deer season, short as it is.

Sportsmen in Pennsylvania are conservation minded. Year after year we have seen our bag limits reduced and the season shortened in an effort to maintain a reasonable supply of game. Almost without exception the sportsmen have submitted without our protest to what appeared to be a necessary curtailment of their days of hunting. So conservation minded have we become, that efforts by the Game Commission to reduce the deer herd where food shortages are causing increasingly heavy winter kills, that serious and determined opposition arises in various counties when an open season is declared on antlerless deer. What then can be done to increase the length of the hunting season so that we can enjoy more week ends afield in the fall of the year? Has it been possible to increase the length of the hunting season without damaging the game crop? For the answers let us look at the record of several of the States which like Pennsylvania are called "Big Game States" and note what these states have accomplished.

In 1937 Michigan established its first bow hunting season. A total of 194 licenses were sold and 4 deer were killed. In 1945 the number of bow hunters had increased to 2,010 and the bag was 68 deer. Beginning in 1945 Michigan hunters had the privilege of hunting during a special archery season, and then, if they had not been able to kill a deer, of buying a regular deer season license and hunting with either bow or gun. It is interesting to note that even though this provision permitted sportsmen to enjoy hunting during both the special bow season and the regular deer season, only 16 percent of the bow hunters hunted in the gun season. Of those who enjoyed both seasons only 13 percent were archers who had not previously hunted with guns. Actually, then, the privilege of hunting in both seasons was enjoyed mostly by men who were formerly gun hunters. Of the "dyed in the wool" archers who did take advantage of the second or gun season, 84 percent still used their bows as weapons. The conclusion is inevitable that it is entirely possible to increase the number of hunting days and therefore increase the opportunity for each and every hunter to spend additional days in the field in pursuit

of his favorite game. It goes without saying that the joy of the hunt and the companionship of fellow hunters afield far surpasses the occasional kill. In 1945 Michigan reports that 53 percent of the participants in the archery season were former gun hunters. Michigan's years of experience with special archery deer hunting season's have shown that possibilities for recreation in the form of bow and arrow deer hunting are unlimited. Here is a form of hunting that provides plenty of fun in the chase, but is productive of very few deer in the bag.

At least 18 states have provided special bow hunting areas or seasons for deer. Pennsylvania has set off two small areas where deer may be hunted during the regular deer season by archers only. Wisconsin, especially has adopted a liberal bow hunting season. All counties in which deer may be hunted are open to bow and arrow hunters from September 25 to November 7 inclusive. One deer of any age of either sex may be taken.

Considering the small percentage of success by bow hunters the Michigan State Department of Conservation has come to the conclusion that Michigan's deer herd could stand almost unlimited amounts of hunting with the bow and arrow. A general state-wide "one deer" (either sex) law could easily be permitted without any effect whatsoever on the deer herd.

It is obvious that encouragement of archery deer hunting is not only a means of promoting a longer season of outdoor sport in the hunting field at little or no expense to the deer herd but is a way of "eating your cake and having it too."

In 1948 our neighboring state of New York enacted into law an open season for taking a deer and bear with bow and arrow only. This open season runs for a period of 14 days immediately preceding the regular open season.

. . . *The End*

Pennsylvania has set off two small areas in Sullivan and Forest Counties where deer may be hunted during the regular deer season by archers only.

Hal Harrison Photo



It's Later Than You Think

By Grace O. Beach

THE headlines of today sear their way across our minds. Everything pales in significance. Things equally important to our existence are blotted out in our anxiety in these troublesome times. One of these, just as vital and of as much moment to our national existence is the conservation, preservation and restoration of our natural resources. Now more than ever before they should and must be of primary importance in our overall planning.

Twice within the past half century, war has taken a tremendous toll of our natural resources. We have gouged deep into the earth to mine the tons and tons of precious metals, zinc, copper, lead, iron coal and others equally important. We have drawn deep on our oil supply and will put even greater demands upon available sources. We have cut and slashed our forests and put a tremendous burden upon the soil to produce and supply our needs and the needs of the world.

As we enter the second half of the century, we face the probability that even greater demands will be made upon these previous resources.

Our earth has already suffered irreparable damages. Some scars are permanent others can be repaired. History is filled with examples of flourishing civilizations that have sunk into oblivion, their once great cities buried beneath the sands created by their own wastefulness; their people scattered to the four corners of the earth—victims of their own carelessness and lack of foresight.



There are five major resources that make life possible. They are water, soil, minerals and plant and animal life. Each is dependent upon the other and human life entirely dependent upon them. When you remove one, the whole structure collapses and with it civilization.

Many of our dilemmas of today are directly traceable to plant and animal shortages, floods, worn out topsoils, decreasing water supplies, diminishing mineral supplies and depleted forests. They are largely responsible for today's political upheavals.

Our stewardship of these life giving resources has been in the past and is still today, glaringly weak, stupid and reckless.

One of the main sources of trouble springs from the fact that we think of the world as vast. In one sense it is, but actually, three fourths of the earth is water and one fourth land. One half of all the land lies in the polar regions, in deserts and extremely mountainous country which is uninhabitable. So there is about 16 billion acres of land favorable for habitation in the world today.

Man has repopulated the earth four times within the past three hundred years and doubled his number within the last hundred. The present population is now well over two billion. It is estimated that if the present increase rate continues the population will double itself in the next 70 years.

At the present population rate, there is less than 2 acres per person available for cultivation. Yet, in order to supply the daily minimum of food requirements, two and one-half

acres is necessary to meet the demands.

Today, there are thousands of people throughout the world starving to death. There are food shortages in most every country, even in some sections of United States. Because of lack of agricultural territories and wasted, depleted soils, many countries are forced to import great quantities of food to supply the needs of their people.

America is looked upon as the food granary of the world. That is one of the most fallacious slogans ever foisted upon any nation. We cannot hope to feed the world, and if we attempt any such project, we will only impoverish our land and our people. Eventually we too will sink into oblivion as have other nations before us, who did not jealously guard their inheritance.

Civilization has now reached every corner of the globe. For the first time in the history of the world there are no new lands to conquer. We have marched across the length and breadth of the land, chopping, tearing, gouging, destroying and marching on, leaving behind us desecration and destruction. We cannot expand and seek new lands and new resources. We must live with what we have. From the beginning of time, one of the basic problems of man has been to wrest a livelihood from the earth. It has never changed, and it never will. Life springs from the earth and when we have depleted that earth, we are finished.

Yet in spite of that fact, we lay waste to it daily, deliberately and unthinking. Take our state of Pennsylvania, for instance. When the land was cleared a few short years ago, we had nine inches of topsoil. Today, we have approximately six inches left. We have wasted and lost three inches of that precious life giving soil. In spite of that, farms are standing idle, hills are bared to the elements and left that way with no effort at restoration. We cut down our forests and fail to replace them, we move to the city and leave abandoned farms to the elements. America has been and still is the most destructive nation of all history on her natural resources. If we continue this pace, what is to happen to our civilization, and what of these children we nurture so lovingly and provide for so lavishly? What, of all this overabundance of resources that has been handed to us, are we going to preserve for our childrens future and their well being?

The solution to these problems will not be found by following the footprints we have trod in the past. We must look to the future. As a nation we are more conservation minded than we have ever been before. We are coming to to realize and understand that we must do something and soon. We have set our hand to the plow and we must not turn back. Now more than ever our watchword must be the conservation, preservation and restoration of all our natural resources.

Women can and must work for a better conservation program, for greater security for their children. Nothing must over shadow this vital project to protect our requirements for the present and rebuilding for the future, lest we win the peace, but lose our lives.

It is not hopeless. There is an answer to the problem. That answer lies with you and me. Working together for a common cause we can overcome our problems and build a strong and secure future.

. . . *The End*



Gun Dog Breeding

By HERBERT KENDRICK

HEREDITY plays an important part in the perpetuation and improvement of modern gun dogs, and it may be interesting to discuss some of the results of considerable research and experience on this important subject.

In a never ending search to produce the perfect gun dog many men have made unreasonable breeding crosses, resulting in countless litters of worthless pups. A large size book would be required to develop this topic, if a scientific treatise were given, therefore allow us to avoid technicalities and present a general discussion.

The female is equipped with the organs to produce a few tiny eggs about twice each year. These units die unless fertilized by the male; however if the bitch is bred, during season, the sperm from the male finds its way to the eggs. The germ cells of the male puncture the soft wall of the female egg cells and the new life is begun. The sperm of the male contains millions of germ cells called genes, which contain characteristics of parents as far back as six generations. The genes may all be different and chance plays a great part. The pups may be similar but never identical in every way. The process of breeding is highly complicated but shows the beautiful handiwork of a Master Plan which enables animals with man's help to breed the best stock thus improving the offspring.

Breed a black and white dog to a gordon setter and one would think the colors would blend but is doesn't necessarily work that way. The competition between the male and female gene makes one dominant, the other recessive—the dominant gene will control color of hair plus many other characteristics. Results of mating can be very unpredictable because dominant traits in either male or female cannot be predetermined. Experience in successive breeding produces a knowledge of dominant traits. As an example, when a famous sire is bred many times and the pups closely resemble him time after time, it is reasonable to expect the repetition of dominance. However it does not always hold true. Breeders have learned by generations of breeding that undesirable traits can be dominant and passed on to the new litter. Long ears usually rule over short ears, long wiry hair dominates over short smooth hair, while poor bones, bad sight, poor nose, and faulty hearing may be consistantly transmitted.

The quality of brains and general ability is essential in selective breeding. A dog does not inherit tricks nor training from his parents, however he does reap the reward of the ability to learn from his parents.

A dog cannot transmit the fault of gun shyness on to his son, yet the son may receive a shy timid characteristic from the sire or dam, thus making the pups susceptable to the fault.

According to professional breeders certain superlative dogs have a rare quality called prepotency, which means they are able to consistently transmit their most desirable characteristics. When a prepotent sire is bred to an ordinary bitch the pups are more likely to be promising. Sports Peerless never won the National at Grand Junction but he was considered one of the greatest pro-

ducers of winners of all time. His son, Peerless Pride, was a national champion and like his famous father, was a great producer of winners.

Cross breeding is responsible for some of our modern dogs, but should not be attempted by anyone except the professionals.

Breeding sire or bitch to offspring and brother to sister is called inbreeding. The purpose is to purify the strain, getting rid of individual defects by decreasing the variety of gene combinations. Take a prepotent sire, breed him to a bitch of his own line and the good qualifications are transmitted double. Careful selection here can improve the breed.

The Llewellin setter is a direct result of many years of inbreeding. Horace Lytle has recently mated brother and sister, son and daughter of Mississippi Zev, and you will never see a finer litter of pups.

The Golden Retriever is a product of both cross breeding and inbreeding. Examine the pedigree of your prospective pup about five generations back if you want to be more positive of selecting a winner. The gun dog's traits are governed by the laws of heredity and those laws go back to six generations.

Selective breeding plays a great part in developing dogs for show, and here is a perfect example of results of careful breeding. Confirmation is different in the show from that of the field animal, and these qualities can be produced in the same breed. Take a look at the big box nosed English setter on the bench, and then see the small streamlined working dog of the same breed, and you would never know they were related.

Sam Light from Punxsutawney has over a long period of years successfully bred our modern grouse dog. His dogs are so distinctive anyone can recognize the strain anywhere. His dogs are not products of luck but years of experience, research and hard work. He breeds only top stock and the weaklings are destroyed. Sam deserves the great praise grouse gunners and field trial men heap upon him.

If you are not well educated in the art of dog breeding seek the advice of a specialist before you go to the expense and trouble of raising puppies.

. . . The End

Bootjack's Georgia Rebel, pointer dog owned by Brooke Focht of West Lawn.



Trapline Diaries Are Helpful

By L. J. Kopp

FOR many trappers, a trapline diary is perhaps one of the best reference books you could own. Keeping a trapline diary requires only a minute or two of your time each day, but after the season is over you will be surprised at the vast amount of factual trapping information you can find in your entries.

There is nothing special about keeping a diary. Almost any kind of a note book will do. However, it is a good idea to buy a diary, for here you have the month, day, and space for weather reports, already printed on each page.

The important thing to remember is that, while you are on your trapline, the various sights you see, the catches you make. and the weather conditions do not seem to be of unusual interest. However you will be surprised at how important these things really are after you read over the diary at the end of the season.

Entries to be noted would include weather conditions, the day's catch, and all other unusual sights or activities, etc. Following are entries from my own diary of two weeks' trapline operations.

October 15th. Fair. On the trapline today. Covered the full length of my thirty mile 'line, and placed in eleven sets for fox at key locations. Noted where foxes had visited some of my prepared trapsites. Saw several deer at sunset.



October 16th. Fair. Heavy frost covered the ground as I made my way to my first set long before dawn. Once in a while I heard the call of the great horned owl in the predawn far up in the dark mountain. Its always a thrill to hear these big owls while on the fox and coon 'line. Disappointing day. Out of the eleven sets; two held small 'possum, while a skunk had messed up another. I made three coon sets today in previously prepared spots.

October 17. Fair. Found two nice grey foxes waiting for me this morning. One coon set held a small 'possum. One fox trap was sprung by some animal. Saw three deer feeding in a farmer's field while driving along the road.

October 18. Warm. Very misty this morning. I saw at least eight rabbits along about one fourth mile of dirt road, this plus the mist prevented me from driving at more than a snail's pace. I was pleased to find a blinking grey fox in a trap as the beam from my flashlight focused upon him in the misty dawn. I also found a nice coon in one of my coon traps. A fox had escaped from one trap, while another fox trap held a cat. As I released the cat, I wondered what in the world this cat was doing away out here in the woods, at least a mile from the nearest farm home.

October 19. Fair and warmer. Found two more grey foxes waiting for me along my trapline. I found it quite interesting to see a large ringneck pheasant run away from a trapped grey fox. The pheasant was only about ten feet from the fox, and

between it and the fox was a small pine tree several feet high. I figured that the ringneck wanted to get a closer look at one of his enemies now that it was safe to do so. Two traps held small 'possum, while two other sets had been visited by fox, which missed the trap pan by inches.

October 21. Fair and colder. Good frost this morning, as I found a nice grey fox in my first set. Further along another set held a small red fox which still had a tinge of frost coating his back, and ears. Probably this fox had heard me coming before I saw him. At other times I have often found fox in my traps curled up and fast asleep, and the frost on their fur blended with the surroundings. Found one fox trap sprung by a fox visitor. Surprised that I found no 'possum in any of my sets.

October 22. Fair. Today I was surprised to find a grey fox caught in one of my coon sets, while another coon set held a nice dark coon. Saw a hornets' nest attached to one of the P. P. & L.'s power lines. Seems to be an unusual place for hornets to build their nest.

October 23. Rain. Disgusting day. It rained during the entire trip over my trapline. I found no fox and no coon. I did however find two skunks and one 'possum which had ruined three fox sets.

October 24. Cool. Very wet today, but no rain. Found four 'possum, a skunk, and a rabbit in my fox sets. Saw no fresh fox sign anywhere due to the rainy weather. I now have only a few traps in good order for fox tonight, since most of my sets have been ruined by 'possum and other unwanted animals.

October 25. Clearing. Two more skunks and a 'possum today. This leaves three fox sets and four coon sets in an undisturbed condition. I saw a large buck early this morning at just about dawn, but I could not determine the number of points on his rack.

October 29. Warmer. It rained last night. Found all fox sets ok, but a 'possum had managed to locate one of my coon sets. Pulled most of my traps today, because of wet weather, and the fact that hunting season for small game opens this week. Hope to resume trapping again after the hunting season has subsided somewhat.

Now after reading these entries in our diary of two weeks' trapping operations, let's see what we might be able to learn. The reader must bear in mind that I was out to trap fox, and in order to add a little variety to the trapline, I set a very few coon traps.

It will be noted that during the first week of trapping I was just short of averaging two animals per day. While during the second week I caught only a few of the animals I was trapping for. Observing the notes on daily weather conditions we find that fair weather prevailed during the first week, while rainy and wet weather was on the agenda during the second week. This would indicate that foxes are more apt to be moving about in fair weather, and that they are not very active during rainy weather.

On the other hand, further study of our notes reveals that skunks are exceedingly active during rainy weather. The 'possum appears to be unconcerned about the weather, and he appears to be moving around whenever he feels like it, regardless of what the weatherman has in mind.

We could go on and pick out many other bits of valuable information, but if you really want to surprise yourself, and learn some very interesting facts about our wildlife, then I'd suggest you keep a trapline diary next trapping season. I would wager that you will learn things which you never knew before.

. . . *The End*



Thoughtless Vandalism

By John F. Blair

FOR the past several weeks a soft, white blanket of snow has covered the earth in Southwestern Pennsylvania. This blanket protects the winter wheat and barley grasses from erosion and when it melts, the water soaks into the earth to be stored up for use in nourishing crops when spring comes.

Today the snow has all melted except on the mountains and melting reveals the evidence of the thoughtlessness of some people. Almost anywhere in Pennsylvania there are outdoors pictures that will quicken the heartbeat of most any individual. It would be hard to decide which is the more beautiful. The Winter snows covering the sores of the earth and hanging to the limbs of trees like a thick seafoam icing; the Spring with its millions of flowers of all shapes and colors; the Summer with the velvety green grass attempting to blot out the dead and decaying vegetation of the past winter; the fall with its golden fields of grain and vast reaches of forest land with leaves of gold and russet and red and brown. Indeed Pennsylvania is very beautiful until contaminated by human beings.

The past two days we have traveled several miles over the highways and byways of Fayette County. At one place we stepped from the car to look out over a valley and the first thing that greeted us like a slap in the face was a pile of rubbish dumped in the edge of a farmers cornfield. There were empty milk cans, catsup bottles, beer bottles and cans, waste paper and broken glass. The farmer would have to remove it before he could plow the ground in the spring. In another place a pile of the same caliber had been dumped in the edge of an alfalfa field. Enough in each place to fill several bushel baskets. Again we found a pile of several dozen empty oil cans. Along Dunbar creek, which is set aside as a fisherman's paradise, there was, here a beer can, there a whiskey bottle, here a pickle bottle and there an oil can. This kind of thoughtlessness is enough to make anyone's blood boil. Can you blame those farmers who have rubbish like this dumped on their land for posting it against trespass? Anyone that would commit an act of vandalism like this should have a full charge of #8s in his north end if he was leaning over looking south. If it were possible, I would like to see each pile of rubbish, so dumped, returned to the home of the "skunk" who hauled it out and have it dumped on his front porch. Each community has an approved place to dump rubbish and anyone that will just willfully dump it along the road or in the farmers field to make an eyesore on someone elses property is either very thoughtless or just plain don't give a hoot. If the last is so, then for my book, he is just about as low as a human being can get.

We continued on our trip and stopped in a piece of timber and out of a bunch of brush a pair of tiny kittens crawled. They were dirty and wet and skinny and hungry. Evidently they had been dumped out there to starve or shift for themselves by someone so tender hearted they couldn't bear to kill them quickly and mercifully. They would rather let them starve by inches.

Thousands of unwanted cats and dogs are dumped out by the owner each year. Many of them starve, some of them make their way to the home of someone else who either takes them in and keeps them or mercifully kills them out of the kindness of his heart. Many of them go wild and live on wild birds and animals.

Cats so released and surviving in the woods sometimes grow to an enormous size and often when killed are thought to be a bob cat by the ordinary individual. They live in dens or ledges of rocks and when pursued by dogs often run for miles before they tree or den up. I have seen them with teeth three fourths of an inch long and claws the same. The are classed by some as the most destructive of all small game predators.

The dogs so dumped out sometimes get together and live and hunt and reproduce, just as a pack of wild dogs would. Sometimes a dozen or more. in a pack. The worst ones that we have known about resembled a German Shepard and they would chase and drag down a deer and kill it as surely as a pack of wolves. These dogs become very wild and wary and it is only after many days of unceasing effort that they are tracked down and killed by the Game Protector.

As Citizens we owe it to ourselves and to the generations to follow us to help keep Pennsylvania beautiful. Lets help stop this promiscuous dumping of rubbish along the highways. Also, as citizens, of the Commonwealth, the game that these abandoned cats and dogs kill belongs to you. Your Game Protector will do everything in his power to stop it but he needs your help. This is your Pennsylvania.

. . . *The End*

PGC Photo by Batcheler

The Game Commission program at the State Farm Show held at Harrisburg in early January was built around the Future Farmers of America in relation to wildlife as a farm crop. In a novel and new attraction, Commission trapping experts staged demonstrations of the art of taking predators and furbearers in a small arena.





Those Up and Down Hill Shots

By Ed Shearer

EVERY game season brings more than the usual quota of inquiries to every gun editor. The main reason for them, I believe is that, in these days of diminishing game, hunters give a lot more thought to a miss than they did formerly. Maybe the fact that there is a lot more time between shots has a lot to do with it.

One of the most interesting questions that keeps bobbing up among deer hunters in this mountainous country concerns shooting up and down hill. How high will I hold on a deer uphill to keep from shooting under? How low will I hold on a deer downhill to keep from shooting over?

I have long held that it is far more important to make certain that your rifle is accurately sighted in for its most advantageous range than it is to worry too much about those up and down shots. Also they are a product of optical illusion and undue imagination. But as gun editors are supposed to get paid for handing out facts rather than opinions we'll reach for the volume marked exterior ballistic's and see what it "sez."

A rifle that has had its sights adjusted for shooting over level ground will normally shoot high. That means that it will strike above the point of aim even when shooting up hill or down.

Just how high it will shoot depends on several factors. In order to make this clear let us take a case of a rifle which is sighted for and fired over a level range. The bullet in this instance will start to drop toward the ground due to the force of gravity at the instant it leaves the gun muzzle. Its forward velocity is very fast but its dropping movement is comparatively slow. Thus its path or trajectory through the air assumes the form of a curve. It starts this drop slowly and will build up its speed so in that first second it will drop through 16 feet which is the attraction of gravity.

Now, for example, take a bullet fired from a 30-06 rifle. The time of flight for the first 100 yards will be approximately .116 seconds. Now in that time we find old man gravity has pulled the bullet down about 2.4 inches. So in order to hit an object at some distance we must elevate the barrel a little so that it actually will point above the target, an amount equal to the down drop of the bullet over that distance. In practical shooting we make this allowance (which is called angle of elevation) by raising the adjustments of the rear sight a little higher than the front sight above the axis of the bore. Thus when we aim, the barrel is actually pointed upward.

Now when the rifle is fired, the bullet emerges from the muzzle below the line of sight and gradually rises upwards until it cuts the line of sight and continues its curved flight or trajectory. By the time it has reached the target it has curved and fallen enough from the force of gravity to strike the target at which it was aimed.

Now in the case of a rifle which is fired vertically or straight up or down with the sights adjusted for shooting

over level ground, we run into something different. In this situation the force of gravity does not operate the same way. It does not pull the bullet down to the point of aim at the target. Instead the force of gravity acts to very slightly decrease the velocity when fifed straight up or increase it when fired straight down. But the increase or decrease in velocity will only amount to 16 feet per second and can be disregarded at accepted rifle ranges. The bullet starts straight out in the direction the barrel, or rather the axis of the bore, is pointed and continues to fly straight on this line for all practical purposes without any curve. It will continue to depart farther and farther from the line of aim as the distance increases.

Now going back to our 30-06 rifle we find that, if the rifle was sighted to strike center at 100 yards over level ground with a bullet drop over this range of 2.4 inches, this rifle fired vertically at 100 yards would strike 2.4 inches high or away from where it was aimed. At 200 yards, it would strike 4.8 inches away.

Now take a buck standing up or down hill at an angle of 45 degrees. Here the force of gravity will act on the bullet just half way between the force when fired on the level and when fired straight up.

So with our 30-06 rifle sighted for 100 yards on the level we find that it will normally shoot 1.2 inches high when shot at a 45 degree angle either up or down hill. On a 22½ degree slope which is still plenty for our eastern shooting, the bullet would strike .6 inch high. An angle of 67½ degrees would find the bullet striking 1.8 inches high.

LOST

A 303 Savage Model 99 rifle, lost on November 27, 1950 in Wayne County about 3 miles outside of Newfoundland. Anyone finding this rifle please notify Franklin Phillips, RD 1, Slatington. Cash reward.

Now we come to some jokers that can and probably do in most cases off-set our fine calculations on angle firing. The greater the angle the more they enter the picture. Every rifle barrel jumps and vibrates when fired. Much of this movement takes place before the bullet leaves the bore. The bullet does not leave the bore in prolongation of the axis of the bore when the barrel is at rest, but in the prolongation of the axis of the bore near the muzzle which that axis is forced into by the jump. Now this jump and vibration varies considerably, according to the tension with which the rifle is held and the manner in which the recoil is taken up by the shoulder. Rifles with standard or light weight barrels are particularly susceptible to these variations. How much depends on the degree of variation of tension between shots.

Now to go farther let us take a rifle accurately sighted in for a given firing position. You will find that when you make a change in that position the center of impact will change from one to three inches at 100 yards. Now in shooting up or down hill you will find your shooting position changing still more and your center of impact may change from three to six inches in any direction. Low, high or to one side. Add to this the fact that in downhill shooting the face has a tendency to ride high on the comb of the stock thus taking a courser bead with open sights which adds more error.

So boiled down the answer to these uphill or downhill shots seems to be this. Ballistically the rifle will shoot high but due to other factors that may introduce errors which may more than offset that elevation, we can assume that with any modern rifle properly sighted in, we can disregard any allowance for up and downhill shots and still have meat in the pot.

. . . *The End*



Outdoor Kids

By Hal H. Harrison

LIKE so many poor gardners who spend hours and days on their knees digging dandelion plants from their lawns, the dandelions never give up either.

Dandelion comes from the French "dent-de-lion," meaning lion's tooth, referring to the outline of the leaf, said to look like the teeth in a lion's jaw. It comes to us from the Old World and has done very well in America.

It is listed everywhere as a common weed. And what is the difference between a flower and a weed? Nothing! A weed is just a flower growing where it is not wanted. And dandelions are not wanted in nice green lawns. Great efforts are made to get rid of them, but the efforts are in vain. The dandelion is here to stay.

Billy and Jane never worried much about the dandelion as a weed. If other folks try to get rid of them, that is all right, but the children look upon it as one of the welcome flowers of spring. And in Pennsylvania, the dandelion is one of the very first spring flowers. Fields covered with a golden blanket of dandelions are a delight to the children.

Billy and Jane have learned a number of things to do with these pretty yellow flowers. They pick them for bouquets. They split the smooth, hollow stems and make curls and ribbons of them. They blow through the stems and make funny noises. They tell the number of children they will have by the number of puffs needed to blow away the fuzzy heads when the blossoms have gone to seed.

An ever-growing number of persons are enjoying the tender spring leaves, cooked like spinach, or eaten raw in salads. Europeans taught Americans to enjoy these greens, which are now on the menus of many hotels and restaurants.

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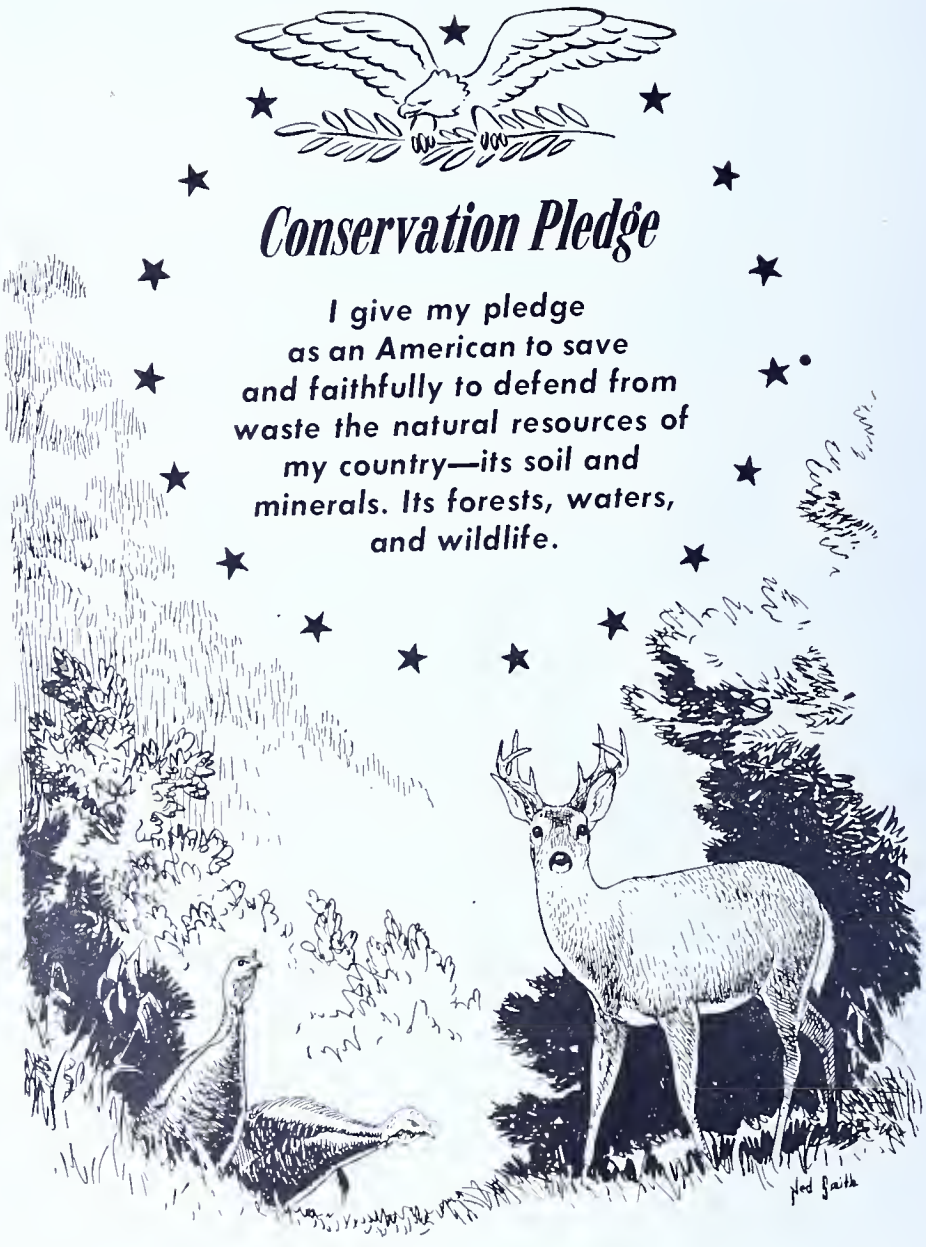
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Conservation Pledge

I give my pledge
as an American to save
and faithfully to defend from
waste the natural resources of
my country—its soil and
minerals. Its forests, waters,
and wildlife.

PENNSYLVANIA

Game News

DOCUMENTS SECTION



P38.3 L

MARCH 1951 SPECIAL ISSUE NO. 2



THE STORY BEHIND THE COVER

Conservation-minded sportsmen can form the front line of conservation. Inspired by sound purpose, guided by intelligent leadership and energized by common interest, the active members of any group of sportsmen can apply conservation principles in their community that have a direct influence on the future of Pennsylvania and even the nation.

Like the outdoorsmen shown on this month's cover, thousands of people in our State are beginning to realize that conservation and outdoor activity are not confined to hunting and fishing seasons alone. It is time and there is need for more and more citizens of the Commonwealth to take advantage of the year-'round pleasures offered by Pennsylvania's forests, fields and streams. Some, but not yet enough, are starting year-'round conservation projects, are going afield in all seasons of the year to further the crusade of conservation. Whether they are feeding wildlife in winter, planting game food and cover in spring, building pheasant rearing pens in summer, or teaching safe gun handling to youngsters in fall, these sportsmen are spreading the interest in conservation and the outdoors. Through conservation they are guaranteeing a better future for themselves and their children.

Building a better future through conservation is today's challenge to each of this Commonwealth's more than a million outdoor men and women. If each sportsman does not become concerned about his sport and about the present and future use made of the natural resources in his locality, he cannot expect the miracle of others in his community to do the job of restoration, preservation and conservation for him. That interest, awareness and concern can grow from the leadership and actions of local sportsmen-conservationists.

It is significant that the outdoor sportsmen are among the very first to feel the destructive results of resource waste and exploitation. Because of their direct love for the land and their earnest desire for that land to produce the maximum resource crop—soils, forests, waters and wildlife—sportsmen should become the modern minutemen who sound the alarm at the first sign of waste, pollution, erosion, burning or disease.

Until the day when every locality and community in our State has at least one active sportsmen-conservation group doing a constructive job in safeguarding our natural resources, supporting State and National conservation efforts, arousing public interest in the need for conservation, we will follow the bitter road which leads to scarcity and see those things that mean so much to all of us disappear because of our lack of foresight and determination to preserve them.

Pennsylvania Needs Year-'Round Sportsmen-Conservationists

PENNSYLVANIA Game News

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by the
Pennsylvania Game Commission

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

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YEAR 'ROUND PLEASURES FOR SPORTSMEN

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FOREWORD

Throughout most of the English speaking world the administration of wildlife resources is based on the principle that all wild animals and birds belong to all the people, not just those who make direct use of them. When wildlife is viewed in this way as a trust to be preserved and managed for all to enjoy, the role of organized sportsmen becomes one of the most important parts in any wildlife conservation pattern.

The properly organized, active and managed sportsmen's club is an invaluable conservation asset. Armed with sound facts and guided in the right direction, the sportsmen of Pennsylvania—both individually and collectively—can accomplish modern miracles in the protection, restoration and preservation of our soils, minerals, forests, waters and wildlife.

This special issue of the PENNSYLVANIA GAME NEWS is intended as a source for such facts and guidance. Throughout its pages, a positive course of action is outlined—a course that will not only give sportsmen a much greater appreciation of the rich outdoor heritage that is theirs, but will also lead them to more fully realize the part they can play in conservation.

With the knowledge that the information is factual and with the conviction that it should prove both enlightening and beneficial, this issue is made available as a conservation education service.

Additional copies in limited numbers can be procured by enclosing ten cents (10c) in coin to cover cost of handling and mailing to: Pennsylvania Game Commission, Division of Conservation Education, Harrisburg, Pa.

YEAR 'ROUND PLEASURES FOR SPORTSMEN

By
Hal H. Harrison



All photos by the author unless otherwise credited.

Introduction

IF YOU are one of the thousands of persons in Pennsylvania who do nothing more for conservation in this state than buy a hunting and fishing license annually, you are not a sportsman; a hunter or a fisherman perhaps, but not a sportsman.

If your interest in hunting and fishing is solely in killing more game and catching more fish, you are not a sportsman. Furthermore, if all hunters and anglers in Pennsylvania were like you, your sport would be doomed.

The Pennsylvania Game Commission alone cannot supply enough game for one million hunters whose only interest in the out-of-doors is killing. The Pennsylvania Fish Commission cannot stock enough fish to supply the demands of 700,000 license holders who are interested only in getting their limit everytime they're going fishing.

Wildlife is a heritage to be cherished and conserved. If it is to be harvested, it is to be harvested wisely. And when it reaches the danger point, it is not to be harvested at all. When Pennsylvania's hunters and fishermen come to realize that this vast wilderness of ours and the wildlife within it belongs to all of the people of the state; when they come to realize that hunting and fishing is not a game in which we must try to beat the other fellow; when they learn that killing the things we cherish just for the sake of killing is wildlife bankruptcy; and when they decide that it is their job, not just the other fellow's, to help conserve and bring back our precious wildlife; then and only then will all of our nimrods and anglers be called sportsmen.

Just as sure as the game law violator is a thief, so is the person who answers "bunk" to the above statement a menace to the future of sport afield. He's the guy who's taking it away from us without giving a thing. He's the one we sportsmen will have to work on before he puts an end to public hunting in Pennsylvania. He's a tough guy, and the only way we can reach him is to play it his way . . . tough!

The majority of you who will read this book are sportsmen. You support your Game Commission by subscribing to its magazine and supporting its programs. So, it's up to you to carry to the other fellow any inspiration or ideas that you glean from this publication. You'll do your part, but how about some other men you know? Why not buy a few extra copies of this issue and give it to them? Or lend them your copy when you are through with it.

The purpose of this book is to suggest to sportsmen the many fine things that can be done to interest them throughout the year; not just hunting and fishing, but dozens of other healthful activities, all of them lots of fun and all of them abundantly worthwhile.

That we have not covered all of the things that might be suggested is most likely. If you think of others, let us know.

In using the names of certain sportsmen's clubs and even individual sportsmen throughout this book we have done so only to offer examples to others of what can be done. Your club may be doing a job just as important as those mentioned here. And the reason we did not include your name was because we did not know about your work at the time the book was written.

The author takes complete responsibility for the examples used in this publication. It was his assignment to collect all the information possible. The Game Commission, as publisher, conceived the idea and guided its preparation. However, if you or your club have been doing a worthwhile job that you think is comparable to or better than those mentioned here, by all means let the Commission know about it. Your example will serve, too, as an inspiration for others to do likewise.

Hunting and fishing are grand sports. We hope that you enjoy them as long as you live and that your children and your children's children will enjoy them too. But remember that hunting and fishing are only two of the many, many forms of recreation that you can enjoy throughout the year. Don't sell yourself short. Don't just hunt and fish. Look into some of the other activities that await you. This book suggests quite a few. You're bound to like some of them.

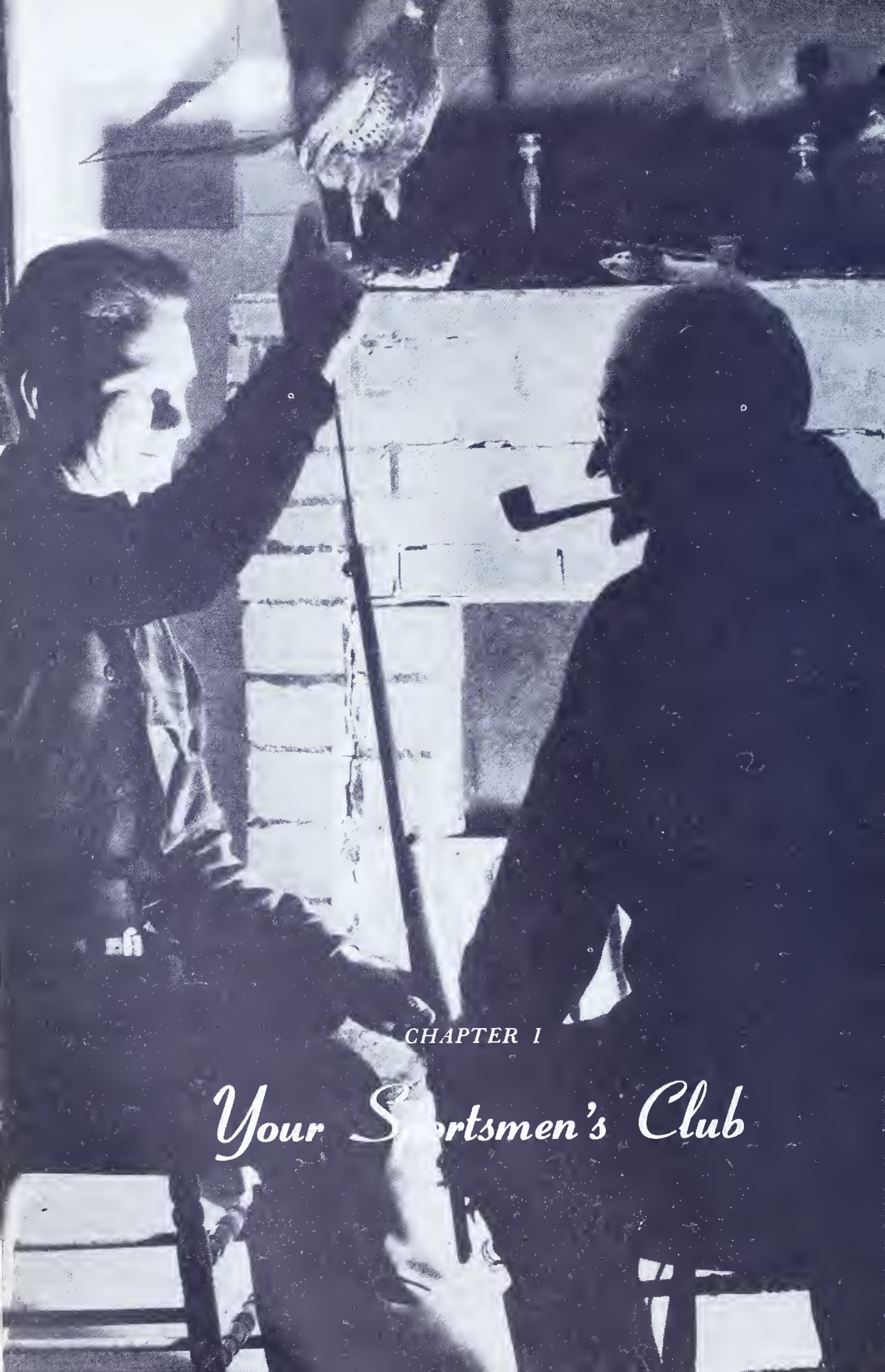
If you are a real sportsman, the big thing after all is getting out-of-doors. You hunt and fish and you enjoy it, but it's because you are out in the open . . . in the woods, the fields, the mountains, along the streams, in the marshes! That's what really counts.

Let's continue to enjoy the out-of-doors . . . in many ways. And let's guard jealously the wildlife and the wilderness that WE own . . . you and I . . . WE own it!

HAL H. HARRISON

December 1950

Tarentum, Pa.



CHAPTER 1

Your Sportsmen's Club

IN PENNSYLVANIA today, as in other states that enjoy good hunting and fishing, there are hundreds of sportsmen's clubs. Indeed, the list of clubs runs into the thousands. It gives the average person the impression of terrific strength and power in such union.

Well, there is no question about the POTENTIAL strength and power of such a formidable group. But to cite an old adage, "A chain is only as strong as its weakest link," in that huge chain of sportsmen's clubs there are scores of weak links.

What answer will I get from YOU, the reader, when I ask: "What good work has your club been doing? And what have you been doing, as a good sportsman and conservationist, to aid your club in its program?"

Can your club boast of anything except a list of paid up members?

If not, you are on the wrong track. Your club needs a reorganization and a brand new outlook. And it is not the sole purpose of a sports club to be AGAINST something. It is easy to find fault. It is part of your club's responsibility to be FOR a few things too.

In an article in one of the magazines sometime ago, Mabry I. Anderson wrote on "Why Sportsman's Clubs Fail!" In part, he wrote:

"All real sportsmen know what can be done with proper organization and effort and yet they fail. Why? The whole thing hinges on YOU, Mr. Sportsman. You're the one to praise or blame. Unless you, yourself, take the bit in your teeth, you're sunk. If you already have an inactive group, your job will be harder. Toes will be tramped and feelings hurt, but if your business was failing, you'd trample a few toes to save it, wouldn't you?

"The future of your wildlife and renewable resources IS your business, just as much as your hardware store or your service station and neglect is bankrupting it. You can save it by organization and work. While thousands of words have been written on the mechanics of organizing a sportsmen's club, I've never seen a thing that told how to make one work. I intend to try to tell you HOW to make your club work and the seven basic principles that follow have produced results. Take them to heart; they can mean the difference between a rich enjoyment of God's outdoors and a barren land."

Here are Mr. Anderson's seven basic principles, condensed:

1. Be sold on the need for organization.
2. Elect officers that are interested and have sufficient time to devote to their jobs.
3. Have a definite set of objectives. Don't simply fight things, create something.
4. Realize the absolute necessity of regular meetings and interesting programs.
5. Be aware of the fact that every member possible should be given a job.
6. Be thick-skinned and willing to stick out your neck.
7. Practice showmanship. Do something. Get your club in the limelight.

Organizing a Club

While the mechanics of getting a club organized correctly are vitally important to the future of that club, achievement is really the life-blood of any sportsmen's association. Members should always realize that achievement in conservation will result directly in more fish and game, make healthful recreation and more unity of purpose.

But to take first things first, the club should be set-up properly. Two worthwhile publications are available: "How to Form a Sportsman's Club," published by *Outdoor Life*, 353 Fourth Ave., New York 10, N. Y.; and "Organize a Sportsmen's Club" by Michael Hudoba, published by *Sports Afield*, 401 Second Ave., S.

Minneapolis 1, Minn.

In the March 1948 issue of the Pennsylvania GAME NEWS, a concise working plan for a successful sportsman's club was outlined. As an introduction to the plan, the following good advice was offered:

"The sound basis for continued success of an organization is the constitution on which it is established, the quality of regular meeting programs and interesting projects or activities. Many organizations are formed and carried on by the energy and enthusiasm of one or two individuals, and rapidly disintegrate when that impetus is lost. Therefore, more individuals having a share in the establishment and the continuous operation of the organization will insure its success."

And here is the suggested set-up for a successful club:

Constitution and By-Laws—The adoption of the rules governing the establishment and operation should include the following: Name, Objective, Membership and Dues, List of Officers, Duties of Officers, Standing Committees, Meeting Time, Directors, Annual Meeting and Election of Officers, Quorum, and Amendment of By-Laws.

Membership and Dues.—Membership is usually open to all interested individuals, with a special consideration for farmers in the rural areas. Since good will of landowners is necessary for good hunting relationships, some clubs have made efforts to cultivate it by reduced dues for farmers. The annual dues range from 50c to $5.00.

Meeting Place and Time.—A regular meeting place and a set time are essential to stability. Better attendance will result if members know that the meeting will be held on a stated evening of the month at a specified place. The necessity for notifying the membership of the time and place of meeting would thus be eliminated; but, if the club has funds, it may be desirable to have reminder letters sent, which should most certainly be done for all special occasions.

Standing Committees.—The work of the club can be expediated if consideration of club activities is referred to committees for investigation and recommendation. The committees may have three or five members, of which one is the chairman, usually appointed by the president of the club. The following are suggested committees:

Finance and Budget Committee.—Considers ways and means of raising funds, makes budgets and audits expenditures and accounts.

Program Committee.—Makes arrangements for speakers, movies or other activities for regular meetings.

Membership Committee.—Conducts membership drives.

Publicity Committee.—Prepares all publicity for regular and special events.

Game Committee.—Handles matters pertaining to game propagation, problems and activities of the club.

Fish Committee.—Handles matters pertaining to fish progagation, rough fish, commercial fishing and similar problems.

Forestry Committee.—Handles matters of tree planting, fire prevention and suppression, and forest land problems.

Soil and Water Committee.—Handles matters of soil erosion, water conservation, water pollution and similar problems.

Law Enforcement and Legislative Committee.—Keeps the club informed of all laws pertaining to natural resources, promotes law observance, considers proposals for proper legislation.

Farmer Relations Committee.—Considers all matters pertaining to the hunter-farmer and angler-farmer relationships to promote better understanding and cooperation.



Contests at field day events add interest to sportsmen's club activities. A potato-masher throwing contest is in progress here at the annual field day of the Northcentral Division of Pennsylvania Federation of Sportsmen's Clubs at St. Mary's.

Field Events Committee.—Handles the rifle, pistol or gun ranges for shoots; field training and trials for dogs; archery courses; casting platforms; and promotes other field activity, training events and contests.

Education Committee.—Promotes efforts to acquaint club members with conservation matters, carrying them into the schools and trying at all times to create a better understanding between sportsman and public.

Junior Conservation Committee.—Handles all matters concerned with junior organizations within the club or within the community; aids in organizing and operating such clubs.

Special Events Committee.—Handles occasional events such as picnics, joint meetings with other groups, contests such as bird-house-building, and similar events.

Club Property Committee.—The club that starts with property or eventually acquires property should have a committee to manage such affairs. The property may be a club house or a tract of land or both. It is desirable and may be necessary, if the club owns property and equipment, that an association or corporation be formed and registered with the state to safeguard the investment and simplify the administration.

Food and Cover Committee.—So important has this activity become that it deserves a place in the standing committees. All problems and programs involving the club's work in food and cover, including winter feeding of wildlife, are handled by this committee. Programs for future activity should originate here also.

Safety Committee.—Considers all matters pertaining to water and firearms safety. A constant program of personal safety should be stressed through demonstrations of swimming, lifesaving, handling watercraft and handling of firearms and ammunition.

Predator Control Committee.—Considers and manages all programs concerned with control of undesirable predators.

Club Entertainment

Successful sportsmen's clubs find that much of the routine planning for the organization can be done best by the board of directors and the committees. Meetings can be made less boring and much more interesting if many business matters have been thrashed out in advance and are presented for club acceptance or rejection. Business meetings should never be involved and should close early enough to permit ample time for entertainment, visiting, story-swapping and possibly refreshments.

The interest of members will be held best by well-planned meetings and pleasant and interesting entertainment. New members will be attracted to the club through its social activities and its programs. Publicity for each meeting with an invitation to non-members to attend is important.

Certain meetings may be set aside as special events . . . annual dinners, fish fries, clam bakes, ladies night, carnival night, picnics, exhibitions, farmers' night and many others.

Talks by conservation officers, illustrated lectures, bait and fly casting exhibitions, shooting exhibitions, exhibitions of safe gun handling, raffles, and fishing, hunting and outdoor movies suggest a few programs for clubs.

Appropriate Movies

A "must" on the program of most sportsman's clubs is a good movie for presentation each meeting night. To aid clubs in securing the right material, the following list of motion picture sources is given:

Pennsylvania Game Commission, Harrisburg, Pa.

Pennsylvania Fish Commission, Harrisburg, Pa.

Pennsylvania Department of Forests and Waters, Harrisburg, Pa.

Pennsylvania Department of Commerce, Harrisburg, Pa.

Pennsylvania State College, State College, Pa.

Carnegie Museum, Pittsburgh, Pa.

Pennsylvania Federation of Sportsmen's Clubs, Dr. C. A. Mortimer, Sec., Honesdale, Pa.

Soil Conservation Service, Upper Darby, Pa.

Penn Fishing Tackle Mfg. Co., 3028 W. Hunting Park Ave., Philadelphia, 32, Pa.

Animal Trap Company of America, Lititz, Pa.

U. S. Fish and Wildlife Service, Washington, D. C.

U. S. Department of Agriculture, Washington, D. C.

National Wildlife Federation, 20 Spruce St., Boston, Mass.

Wildlife Management Institute, Wire Bldg., Washington 5, D. C.

Izaak Walton League of America, Chicago, Ill.

Field and Stream, 515 Madison Ave., New York 22, N. Y.

Castle Films, 445 Park Ave., New York 22, N. Y.

Ford Motor Co., 3000 Schaefer Rd., Dearborn, Mich.

Smithsonian Institute, Washington, D. C.

National Rifle Association, Washington, D. C.

Remington Arms Co., Bridgeport, Conn.

Winchester Arms Co., New Haven, Conn.

Weber Lifelike Fly Co., Stevens Point, Wisc.

South Bend Bait Co., South Bend 23, Ind.

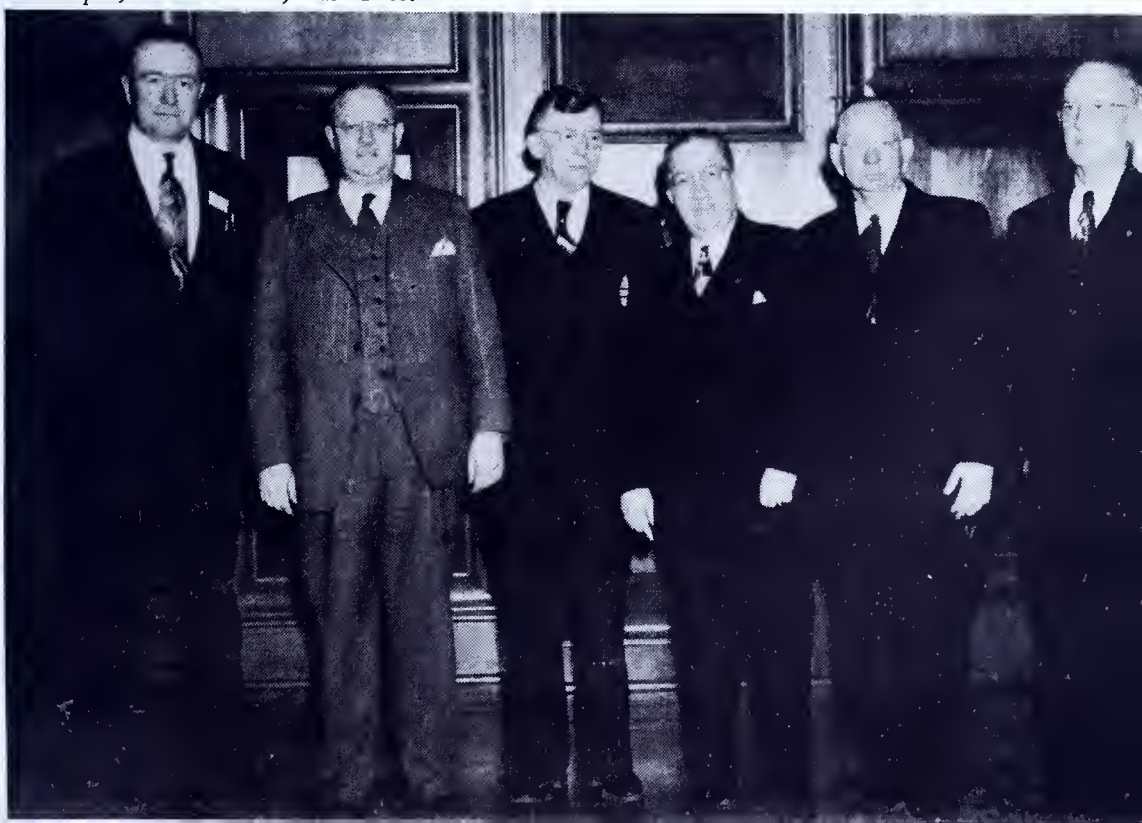
Sportsmen's Bureau, 343 Lexington Ave., New York 16, N. Y.
Ralston Purina Co., Checkerboard Square, St. Louis 2, Mo.
Santa Fe System Lines, 80 E. Jackson Blvd., Chicago, Ill.
Princeton Film Center, Princeton, N. J.
P. & K. Inc., 3450 Archer Ave., Chicago, Ill.
Fred Arbogast & Co., 313 W. North St., Akron 3, Ohio
Ashaway Line Co., Ashaway, R. I.
Y. M. C. A. Motion Picture Bureau, 347 Madison Ave., New York 17, N. Y.
Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.
Evinrude Motors, 4143 North 27th St., Milwaukee, Wis.
Nash Motors, 14250 Plymouth Rd., Detroit 2, Mich.
Gaines Dog Research Center, 250 Park Ave., New York 17, N. Y.
Canadian Travel Film Library, 400 W. Madison St., Chicago 6, Ill.
Canadian Pacific Railway Co., 123 S. Broad St., Philadelphia 9, Pa.
Government Travel Bureau, Dept. of Trade and Industry, Photo Branch, Victoria, British Columbia
Provincial Publicity Bureau, Province of Quebec, 48 Rockefeller Plaza, New York 20, N. Y.

A complete listing of free movies for sportsmen's clubs is published by *Outdoor Life Magazine,* 353 Fourth Ave., New York 10, N. Y. This booklet is priced at 25c per copy.

The Pennsylvania Federation

The Pennsylvania Federation of Sportsmen's Clubs is the state organization for Pennsylvania sportsmen. Its membership now numbers over 200,000. From a local club level, it is organized into county federations. These, in turn, are organized into eight divisions: Northwestern, Southwestern, North Central, South Central, Central, Southern, Northeastern and Southeastern.

The Pennsylvania Federation of Sportsmen's Clubs represents more than 200,000 sportsmen. State officers, shown here, are, left to right: Raymond Armstrong, Guys Mills, 2nd V. Pres.; S. Dale Furst, Williamsport, Pres.; Joe Barkley, Punxsutawney, 1st V. Pres.; Dr. C. A. Mortimer, Honesdale, Sec.-Treas.; Merrill Merritts, Petersburg, Nat. Fed. Rep.; and Robert S. Cooper, Connellsville, Past Pres.



The Federation holds two conventions annually, one in October and one in February, the latter being the annual meeting.

It is at these two meetings that problems of interest throughout the state are discussed by the delegates from the county organizations. Many suggested changes and additions to the fish and game laws are proposed here, as well as matters pertaining to the conservation of natural resources. It is this Federation that serves as the "voice" for Pennsylvania sportsmen.

One of the oldest, and at one time the most powerful sportsman's club in Pennsylvania is the United Sportsmen of Pennsylvania, organized and chartered in 1908. This group was state-wide when it was created, but later split into a western section known as the Wildlife League and an eastern section that retained the original name.

The eastern section still survives and affiliated clubs are called "camps." J. Q. Creveling, former member of the Pennsylvania Game Commission, and a resident of Wilkes-Barre, and the late Dave Pritchard, of Scranton, were the organizers.

Consolidated Sportsmen

One of the most successful sportsman's clubs in Pennsylvania and the largest single club is the Consolidated Sportsmen of Lycoming County. Men who direct the affairs of this club have solved the problem of keeping 10,000 members busy and happy and preventing their organization from becoming a club of hunters and anglers clamoring for more fish and game.

They have done this with a program . . . a program that provides for the whole family of every one of its members.

At the same time, they have not forgotten the primary purpose of the sportsmen's organization . . . the promotion of good sportsmanship, conservation and the enjoyment of the out of doors.

And they have put in operation a program for teen agers that is attracting wide attention. Two thousand boys and girls are regularly enrolled members of the organization.

The machinery of the organization lies in its board of directors, made up of 250 men, representing every one of the dozen communities in the area in which the organization works.

Also, there are nine regional vice-presidents whose job is keeping personal contact among the group's far-flung membership.

Interests of the organization are directed by 24 standing committees. Five major events mark the annual program of the Consolidated Sportsmen: a two-day picnic, annual election of officers, a banquet, a field day for juniors and a turkey shoot for adults.

One of the club's biggest assets is the Memorial Grounds, along Loyalsock Creek, about 12 miles from Williamsport. The area covers more than 200 acres and is valued at $26,500. It is a memorial to members who made the supreme sacrifice in World War II.

Someone nicknamed the area "the poor man's country club," because the only admission fee is a membership card costing $1 a year for seniors and 50 cents for juniors. Members may take their families free.

Among the facilities on the grounds are an archery range, baseball diamond, ice skating pond, two picnic groves, pistol and rifle ranges, quoit and horseshoe courts, skeet and trap installations, two bathing beaches (one shallow for youngsters), a playground with slides and swings, a first-aid dispensary, rest rooms, a bathhouse and a parking lot.

CHAPTER II

Food And Cover For Wildlife



WILDLIFE is a direct product of the land. It is dependent for its very existence upon suitable habitat . . . food and cover.

Sportsmen everywhere are realizing this basic fact more and more.

While artificial propagation of game and predator control have their place in the game management picture, both programs are secondary to the all-important plan of providing adequate food and protection for existing game as well as for any anticipated increase.

A given area of land is limited in the amount of wildlife it can support in direct proportion to the amount of food and cover that area of land offers. Other factors exist, of course, but none is as vital nor as fundamental as these two prerequisites.

What can we hope to gain when we release ten rabbits in an area that already has little enough food and cover for the ten rabbits that already live there? For lack of food, our new rabbits face starvation; for lack of cover, they face annihilation by predators.

With this fact well in mind, sports clubs throughout Pennsylvania are turning their attention to fundamentals . . . to first things first. They are supplying food and cover in depleted coverts with the confident knowledge that more game will follow their efforts.

Look To The Farms

Because 80 per cent of the small game harvested today comes from farmed lands, it is there that we must pin our greatest hopes for improved hunting conditions. Small game is dependent upon the farmer for food and cover, both summer and winter. Thus, sportsmen are following the lead of the Pennsylvania Game Commission in its vast cooperative farm-game program, by concentrating their efforts on similar projects, sponsored individually or by organized clubs.

Unfortunately, on all too many farms, wildlife is a neglected crop. With intense cultivation resulting from a desire on the part of many farmers to turn every foot of earth into cash, wildlife has actually vanished from many areas where it once flourished.

Fortunately, modern concepts of good farming are favorable to good wildlife conditions. Wildlife has a very definite place in "planned" agriculture where every acre is used for its particular crop of highest value. And while Soil Conservation Service personnel and County Farm Agents are preaching the doctrines of good farming through good conservation, sportsmen are taking advantage of this turn of events to offer help to farmers in providing food and cover for wildlife. This help takes many forms, and alert sports clubs are continually finding ways and means of furthering their interests to the mutual benefit of both farmer and sportsman.

It is beyond the scope of this publication to set forth the many good soil conservation practices that have a direct bearing on improved wildlife conditions. Be assured, however, that much help and advice is available free of charge from conservation agencies, including the Pennsylvania Game Commission. Any club desiring to help improve hunting conditions in farm areas need only state its willingness.

In addition, there are many recent books and magazine articles on the subject, all helpful. Two excellent booklets are available at a nominal cost from the Wildlife Management Institute, Washington, D. C. They are: "Upland Game Management" and "The Farmer and Wildlife." These two publications alone contain enough solid, practical information to suffice for any program undertaken by a sports club.

Programs Underway

Many Clubs throughout Pennsyl-

vania are working constantly with healthy enthusiasm to put over worthwhile projects. Others need to inculcate sound conservation programs in their activities.

The Southern Chester County Sportsman's and Farmer's Association gives a good demonstration of what a club can do to help itself when it sets aside an annual contribution for the purchase of food-producing trees and shrubs for planting with the cooperation of the Soil Conservation Service. In 1949, that donation was $200. In 1950, it was $300.

The Holmesburg Fish and Game Protective Association increased its membership dues from $3.00 to $5.00 a year because the members figure that if they are to have better hunting and fishing, they must devote more of their time and money to providing suitable habitat.

In an effort to provide more wildlife food and cover, the Warren Field and Stream Club paid for 500 one-year old multiflora rose seedlings for 25 Warren County farmers who applied for the stock. The club attached the condition that farmers accepting the seedlings would not post their lands against hunting.

The West Chester Fish and Game Protective Association arranged with seed stores in West Chester to sign up farmers in that area to set aside small plots of corn, soy beans, etc., for winter food for game. The club paid each farmer for each plot.

Food plots, mostly corn and buckwheat, have been planted throughout Somerset County by the Laurel Ridge Sportsmen's Association.

In a report at the annual meeting of the Pennsylvania Federation of Sportsmen's Clubs, the Conservation Committee made the following recommendation, which was accepted unanimously by the Federation:

"Your committee feels that the Federation has an inherent interest in the U. S. Soil Conservation Service,

Believe it or not, but this wildlife paradise was once a strip mine spoil bank. It shows what can be done when an effort is made to plant spoil banks and restore them to usefulness. The above photo was taken in the Community Park in Grove City.





Better farming means more wildlife. Sportsmen should encourage modern farm practices at all times, such as contour strip farming shown above.

as substantiated by the remarks of Dr. Gustav Swanson, head of the Cornell Department of Conservation, who stated: 'Most state game departments are cooperating closely with the Soil Conservation Districts in putting game management on private lands. These are pertinent observations and the trend away from game farms is in line with the development brought about through wildlife research.'

"With reference to the trend away from game farms, Dr. Ira N. Gabrielson recently stated: 'The artificial propagation and release of game species, which can be done successfully if no consideratoin of cost is involved, cannot be conducted on an effective scale by the average state conservation department financed entirely by nominal license fees.'

"These authoritative remarks seem to indicate a program of food and cover rather than one of spending the sportsmen's money on an expansion of a propagation program and the purchase of game.

"Your committee therefore recommends:

"1. An effort be made to influence other conservation agencies to effect a U. S. Soil Conservation District in every county.

"2. State College be approached on the imperative need for a cooperative program with a common interest for conservation between its Extension Service and the U. S. Soil Conservation Service.

"3. It is only fitting and proper to approve and congratulate the Pennsylvania Game Commission for the establishment of a food and cover program."

Multiflora Rose

Of all the modern farm practices that have helped wildlife, none has been more outstanding than the increased use of the living fence of

multiflora rose in farm conservation work.

The living fence idea appeals instantly to the farmer. There are no posts to rot, no wires to rust, sag or break. Multiflora is the answer, for it offers economy both in establishment and in upkeep. In addition, it beautifies the landscape.

Multiflora rose is a dense, thorny shrub that grows to about eight feet high and eight feet wide. On most farms, it becomes "stockproof" in from three to five years. Its value to wildlife as protective cover cannot be overemphasized. The red berries or "hips" are eaten by some birds in winter.

It takes from 100 to 200 plants to set 100 feet of fence, depending on whether they are set at 1-foot intervals to hold large livestock, or at 6-inch intervals to hold everything down to a small pig. When estimating the number of plants 10 per cent extra should be added to provide spares (temporarily heeled in) for the prompt replacement of any plants that may die.

Pennsylvania sportsmen have been quick to realize the value of multiflora to wildlife, and it should be one of the "musts" in their planting-for-cover programs.

Sportsmen in Illinois have made vast plans for its use. Some 200 individual multiflora rose nurseries have been established throughout that state by member clubs of the Illinois Federation of Sportsmen's Club. The Federation's program calls for a goal of 1,000 plants for each of its 60,000 members.

Individual projects range from back-porch flower boxes in Chicago, through modest backyard plots, to extensive plantations established by members who own farms and estates. A club of Moline expects to produce 200,000 seedlings for distribution this fall and next spring. Broadlands Sportsmen's Club has set a goal of

A full grown multiflora rose hedge makes an impenetrable fence, ideal for farms and ideal for wildlife.

Missouri Conservation Commission Photo



250,000 plants as its quota; 100,000 plants will be distributed by the Lincoln Sportsmen's Club.

This type of project will return Illinois sportsmen big dividends. Their efforts will be repaid by better hunting conditions, more game, improved relationships with farmers and landowners, and by a feeling of genuine achievement.

Trees and Shrubs

The importance of restoring or creating wildlife habitat on farms cannot be overemphasized, but the sportsmen who devote all of their food and cover planning to farm game species are neglecting another big job.

To be sure, there is some overlapping in the results obtained in some instances, such as the utilization of farm crops by wildlife generally considered forest species, but the well-planned program will include direct consideration for the latter.

As a squirrel food, few shrubs excel the common hazelnut or filbert. An indication of the popularity of this shrub with the bushy tails is given in a letter from a sportsmen. He writes:

"For years our mail was delivered to a box a quarter of a mile from home, necessitating a walk up a long lane bordered by hazel. A row of telephone poles extended down the lane, the rest of the land being bare, but with an open and distant woodland. Often, on my trips to the mailbox, I would see a fox squirrel making the long journey to that hazelbrush from the oak and hickory woodland. When dogs or men appeared, the frisker would run up a telephone pole where it remained until danger passed."

A good plan is to place hazelnuts near mature woodlands that provide good den sites for squirrels. The shrub grows rapidly and produces an abundance of nuts long before the slower-growing nut-bearing trees.

Other important nut trees are walnut, hickory, butternut and oak.

The Montgomery County Federation of Sportsmen's Clubs has done a big job in planting trees. Indeed, this club maintains a nursery at Graterford where seed stock is selected from trees which provide either food or shelter for wildlife. A recent inventory of the nursery listed the following: three beds or about 5,000 walnuts; one-third bed of Ginko; one bed of pine, spruce and hemlock; one bed of dogwood; one-half bed of shellbark hickory; one-third bed of persimmon; and one-third bed of honey locust.

Oswago Rod and Gun Club purchased and set out 1,500 walnuts and 1,500 locusts. This club also plants multiflora rose.

Chuck Miller, a member of the Canoe Fish and Game Protective Association at Port Allegany, offers a good example of what an individual may do in a food and cover program. In time taken from operating a busy service station, Miller has set out evergreens, black walnuts and butternuts on two abandoned farms and a hunting camp site.

Sportsmen going afield in the fall often find black walnuts going to waste beneath the trees. Many of these could be gathered and planted without much effort.

Starting in 1936 when 5,000 mulberry trees were planted, the Western Reserve Fish and Game Protective Association, Sharon, has continued a tree-planting program which has paid dividends. Many of the trees are large enough to bear now. Included in the program are evergreen and nut trees.

Hellertown Sportsmen's Association is utilizing a 40-acre plot of ground owned by Radio Station WGPA, Bethlehem. The station's sending tower is on this ground and the sportsmen have been granted permission to plant the area with food plots, trees, shrubs and vines for wildlife.

Warren Field and Stream Club has entered into a unique agreement with



An evergreen nursery will produce seedlings for planting in the wild. Such a nursery is a fine project for sportsmen's clubs.



Don't forget the oak as an important factor in food and cover for wildlife. Acorns from oak trees are serving as a worthy food substitute for our blighted chestnuts. Encourage oaks by planting new ones and releasing old ones that are choked by other vegetation.

the U. S. Forest Service on a 200-acre tract in the Allegheny National Forest. Club members will do the seeding, planting of game foods, shrubs, game stocking, release work on game-food species, pruning of apple trees and cover production. The Forest Service will furnish some equipment, technical advice and supervision. Declared Supervisor Richard J. Costley:

"Together we will have an area of intensively-treated, publicly-owned land which should serve as a prime example of what can be done in the way of habitat modification in the interest of wildlife. At the same time, watershed, recreational and other resource values will be enhanced."

The planting of 2,000 Norway spruce and pitch pine seedlings as well as many fruit trees has been a conservation activity of the Choke Creek Rod and Gun Club on its 60-acre club grounds near State Game Lands 91, Lackawanna County. It is noteworthy that this club's membership is 12, mostly ex-service men.

Largely through efforts of officers of the Southwest Division of the Pennsylvania Federation of Sportsmen's Clubs, 1,400 acres of strip mining spoil banks, mostly in Washington County, were planted by the Department of Forests and Waters. About 1,500,000 trees, shrubs and food-producing vines went into the project.

Troutville Conservation Club, Helvetia Sportsmen's Club and Stump Creek Rod and Gun Club have joined together in a common food and cover program. The result to date has been four separate plots of buckwheat planted in the "wilderness area" of Clearfield County. The plots are located geographically to give maximum benefit to wildlife, particularly deer and wild turkeys. Farmers plowed and prepared the soil at the

expense of the sportsmen.

Western Clinton Sportsmen's Association also prepared and seeded three game plots in the Keating, Kettle Creek and Youngwoman's Creek areas. The club allotted up to $100 for each plot.

That sportsmen are missing a great bet when they neglect the propagation and care of our native oak trees is the thought-provoking statement of Dr. R. D. Anthony, tree-crop adviser for the Pennsylvania Department of Agriculture. You may be surprised to learn that the available protein in acorns is practically the same as in some species of chestnuts.

"We decry the loss of the chestnut," Dr. Anthony pointed out, "but we ignore our oaks in propagation and wildlife management." He went on to say that the release of choked young oaks should be an important part of any land management program for better food conditions for wildlife.

Incidentally, Dr. Anthony is one who has faith in the Chinese chestnut as a substitute for our blight-stricken native chestnuts.

Admittedly, the ruffed grouse is a bird for which it is difficult to apply practical game management tactics. However, the Pennsylvania Game Commission has had the grouse very much in mind in its food and cover program, especially in the work of release cuttings. Acres of wild grapes have been restored to a healthy condition by such methods.

No individual club in the state, however, has done more to improve ruffed grouse habitat than the Pennsylvania Field Trial Club. While it is true that the club's 24 one-hour courses at Marienville are not open to small game hunting, yet, the time and money spent by the club on these courses can be duplicated anywhere in typical grouse country.

One planting included 1,000 white pines and 1,000 red pines, placed in small groups of 15 to 25. The idea is to produce a brush-type tree as protective cover for grouse, rather than the tall specimens so desirable for lumbering. Along small spring runs, 300 basket willows were planted. Several hundred black locusts were planted in old log-loading yards.

In open spots, the club planted 250 mountain ash seedlings, one of the best winter and spring foods for grouse. Many more will be planted.

Cuttings were made in order to provide better ground cover where needed and to open the forest canopy to light.

Waterfowl Management

Some Pennsylvania sportsmen have been providing food and cover for migratory and nesting waterfowl. Others, especially those located in favorable waterfowl areas, will want to improve conditions for these birds.

It should be recognized, however, that while ducks like water, they do not like just *any* water. Sportsmen can save themselves considerable time and money by acquiring a fundamental knowledge of "how to do" and "where to do" before launching an ambitious program for waterfowl.

To that end, I should like to recommend highly the Wildlife Management Institute's booklet, "Waterfowl Management On Small Areas." The first part of this book, "Ponds and Marshes for Waterfowl," written by Fish and Wildlife Biologist C. E. Addy, is crammed full of practical down-to-earth suggestions for sportsmen who contemplate a waterfowl habitat program. For the more ambitious, L. G. MacNamara's treatment of "Methods of Pond and Lake Construction," in the latter half of the book, will be invaluable.

Mr. Addy warns about planting just any duck food anywhere at all. He suggests six important considerations in the choice of duck food plants:

1. Natural range of the species
2. Type of bottom or soil
3. Depth of water



Marshes, like this one in Crawford County, offer sportsmen's clubs ideal habitat for improvement in food and cover projects. Waterfowl can be induced to rest and feed in places like this by proper management.

4. Chemical nature of water (acidity or salinity)

5. Physical aspects, such as wave action and light absorption by turbid and stained waters

6. Presence of destructive animals

High on the list of desirable plants for fresh water ponds which are slightly acid to slightly alkaline are sago pondweed (Potamogeton), wildrice (Zizania aquatica) and Wildcelery (Vallisneria spiralis).

Let Jack Opachinski, fish and game chairman of the Nanticoke Camp of the United Sportsmen of Pennsylvania, give you his ideas:

"When wild ducks stop on your waters and find little or no food, they go on their way in search of better feeding grounds. If they find plenty of their natural foods growing there, you can't keep them away. To have the best of hunting and fishing, all that is necessary is to start a growth of their favorite food."

Putting words into action, the Nanticoke sportsmen planted the following in surrounding waters: wild celery, sago pondweed, elodea plants, muskgrass, wapato duck potato tubers and deep water duck potato tubers.

Game Protector Ted C. Carlson has done an outstanding job in planting water cress in hundreds of spring-fed streams in Elk County, many in remote areas. In addition to being a valuable food for wild ducks, water cress is relished by deer, beavers, muskrats, wild turkeys and many other birds and animals. The plants remain green throughout the year and are a valuable winter food.

Western Reserve Fish and Game Protective Association has purchased many kinds of waterfowl food for planting in marshes in the western part of Mercer County. The results have been wonderful, club members declare.

A paddle-full of grass-leafed pondweed in the Pymatuning refuge. Plantings here have caused a comeback of such aquatic plants as arrowhead, rice cut grass, coontail, pondweeds and waterweeds.



Because thousands of ducks nest along the Perkiomen and its tributaries each year, the Perkiomen Valley Sportsmen's Association has authorized the purchase of 200 signs to be posted on wild waterfowl breeding areas.

Duck foods planted along Chester County streams by the Southern Chester County Sportsman's and Farmer's Association include giant wildrice, wild duck millet, wampee (duck corn) and wild celery.

Bird boxes are discussed in another chapter, but it should be mentioned here that outstanding success has been achieved in Pennsylvania and elsewhere in the proper construction and the proper placing of wood duck nesting boxes. The Pennsylvania Game Commission is well launched on a project in which hundreds of boxes are now being utilized. And this is a program in which sport clubs may participate easily.

On Page 9 of the December 1947 issue of the GAME NEWS, sportsmen will find a helpful article entitled "A New Method of Erecting Wood Duck Nesting Boxes." It should be read before any such program is undertaken.

For Furbearers

There are times when a program for better fishing or for better waterfowl management clashes with a program for increasing the harvest of furbearing animals. It is not always so, but sportsmen interested primarily in trapping may wish to improve food and cover in some marshes, lakes and streams with the furbearers in mind.

All the generalities that apply to habitat improvement for game species apply also to furbearers. Overtrapping naturally is a factor to be considered in any dwindling population, but just as important, if not more so, is the constant disappearance of food, water and cover.

Certainly the continual pressure for the drainage of marshlands to provide more acres to cultivate can do nothing but reduce existing habitat for many furbearers, and sportsmen interested in preserving this natural homeland will fight vigorously against promiscuous drainage programs.

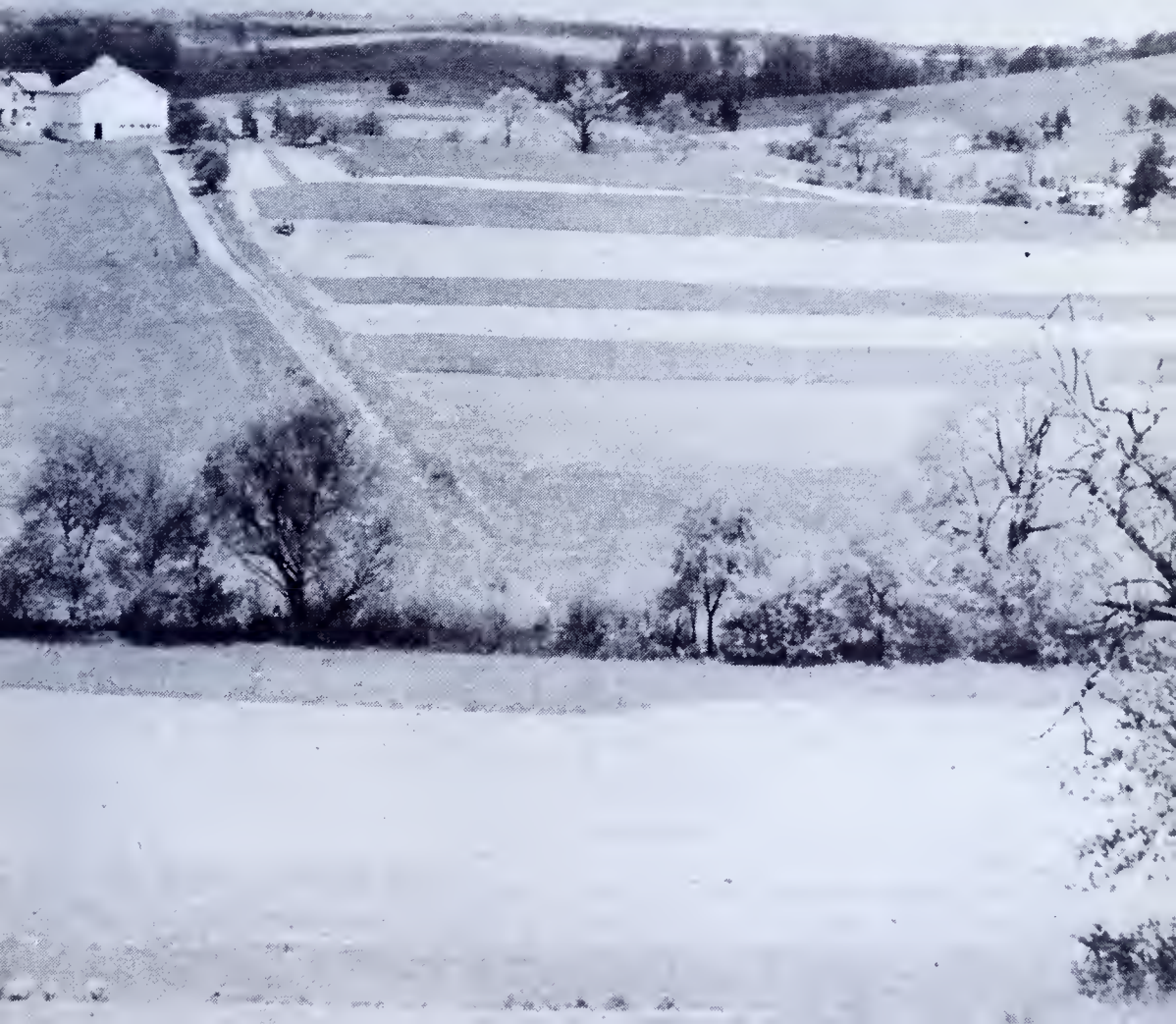
Some government agencies are encouraging landowners to drain marshes faster than conservation agencies can preserve or rebuild them. This situation requires constant vigil on the part of sportsmen who wish to preserve trapping (and waterfowl hunting) even as it exists today.

The construction of ponds, discussed in another chapter, is one method of providing new habitat for muskrats, minks and beavers. Much can be done to improve existing ponds and marshes.

If food habits and environmental demands of various species of furbearers are studied first, sportsmen can do much in providing the right food and cover in exhausted areas.

CHAPTER III

Farmer - Sportsmen Relations



THE future of small game hunting in Pennsylvania is largely an individual problem for each sportsman and an important problem on the agenda of any sports club. A year 'round program for any club must list high among its important activities that of Farmer-Sportsman relationship

The modern farmer is far from the cartoonist's out-moded version of a rube or a country-jake. He is a smart business man whose vocation requires a working knowledge of a wide range of diversified subjects. In the economic operation of his business, he can consider wildlife only as a by-product; one that contributes very little to the annual income.

Thus, when a farmer is asked to consider the improvement of food and cover for wildlife on his farm, or when he is asked for permission to hunt over his land, he is justified in weighing the merits of these propositions carefully.

It is your job as a sportsman to sell him on the advisability of both.

Food and cover for wildlife is discussed in another chapter. That is not the complete solution to the farmer-sportsman picture. Indeed, there are too many "No Hunting" signs posted on thousands of acres of Pennsylvania farmland to give any sportsman the idea that the problem is anywhere near a satisfactory solution.

That a breach exists between some farmers and sportsmen due entirely to a lack of understanding between the two is a recognized fact. Thus, anything that sportsmen can do as individuals or as a club to span that breach and bring about a friendly relationship is certainly worthwhile.

The Farmer-Sportsmen's Committee of the Consolidated Sportsmen of Lycoming County has mapped a progressive program to better farmer-sportsmen relations. The committee has suggested a "Code of Ethics" which has been adopted by the association. The code is appropriate, and other clubs would do well to read it, study it, adopt it as part of its own code, and then live up to it. Here are the 10 points of the code:

1. Always stop at the farmer's house and ask permission to hunt
2. Ask the farm land-owner to join you. Farmers, too, like to hunt.
3. Be as careful of the farmer's property as you would your own.
4. Don't clutter up another man's property with rubbish.
5. Remember, a farmer's land is the same to him as your own yard and property is to you.
6. Don't hog the game if the shooting is good. Offer some of your kill to your farmer host.
7. Remember to return to the farm after the hunting season. Help to feed game in the winter. The farmer also will appreciate it if you will shoot crows and vermin.
8. Don't take the attitude that the few dollars you pay for a license pays for the game. Without the farmer's feed and nature's help, your license fee would pay for no more than the cost of stocking two rabbits.
9. Always remember that most "No trespassing" signs are up because you or some other hunter did not practice these rules in the past.
10. Make friends with our most important partner in hunting . . . the farmer.

Which Is Better?

Pessimists have predicted the end of free hunting in Pennsylvania as well as throughout the country. The course taken by the sportsmen of this state will determine largely whether such predictions come true. Let us take, as examples, the programs of two sports clubs:

The first has adopted a policy of posting lands of cooperating farmers against all persons except club members. In return, the club agrees to stock the land and to press charges against trespassers and law violators during the hunting season.



. "No Trespassing" signs will come down when sportsmen and farmers reach a better understanding of each other's problems. It is the job of sportsmen's clubs to encourage a better relationship.

The second club issues a carefully worded card of introduction to landowners stating that the holder of the card pledges to conduct himself as a gentleman and that the club will reimburse the farmer for any damage up to $100 which the hunter might cause. In a three-year period, 30,000 of these cards were issued without a single claim against the club.

This club establishes no tight fences against outsiders; just a simple pledge of gentlemanly behavior backed by financial insurance against damage.

If the first plan is universally adopted throughout the state, sportsmen will be able to hunt in their own town or county but nowhere else. Then too, these clubs would be cut off from any possible assistance from the funds realized from license fees because their lands, technically at least, would be closed to the public.

In the second plan, sportsmen have complete freedom of movement, would be assured of full state cooperation and would be contributing to the perpetuation of the American plan of free hunting.

Clubs Offer Examples

The Delaware County Field and Stream Association is a good example of an unselfish club whose farmer relations is a vital part of its set-up. During the war, when farm labor was scarce, members of the club helped pick and husk corn and did other farm work to help out. The result was that hundreds of acres of land that had been posted is now a part of the club's Farmer-Sportsmen Cooperative Hunting Plan. Today, thanks principally to the efforts of this club, about 10,000 acres are now open to the general public for hunting. No special privileges are asked

even though the club prints and distributes safety zone posters at their own expense.

Windsor Fish and Game Association furnishes safety zone placards and in many instances the members put up the signs for the farmers. This club also guarantees to prosecute to the limit any gunner caught committing vandalism on a farmer's property.

Monessen Sportsmen's Association is wide-awake to its farmer relationship responsibility. Members keep in close touch with district farmers throughout the year. A corn roast is held annually in honor of the farmers. Members are requested to always ask permission before hunting. Wildlife food is bought from the farmers and remains for winter feeding.

Thoughtless hunters trampled the corn on the William Stewart farm near Monessen one autumn. As a good-will gesture toward Farmer Stewart 40 members of the Monessen club husked three acres of corn for him. Later, they conducted a fox hunt on his farm in an effort to control this predator. Needless to say, Farmer Stewart forgave the vandals, thanks to the alert Monessen club.

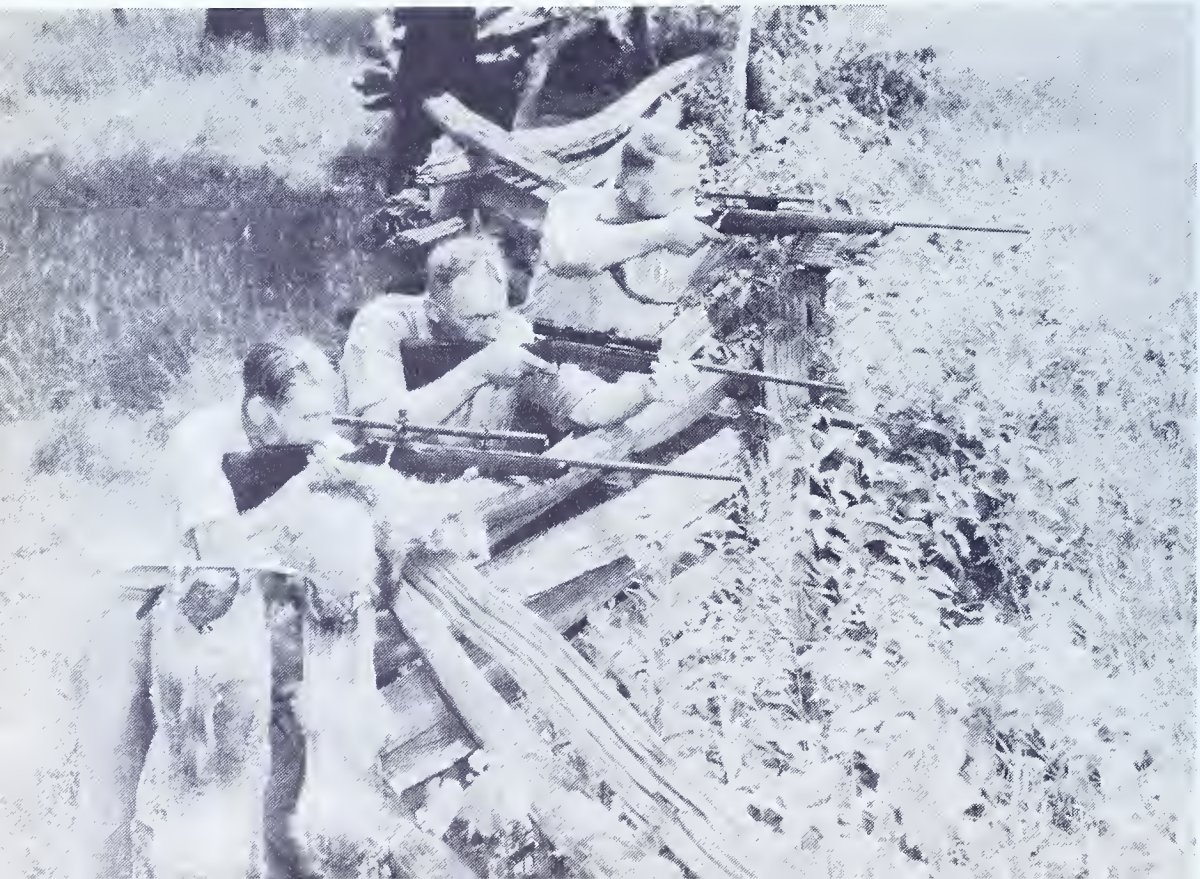
So anxious were the members of the Southern Chester County Sportsman's and Farmer's Association to bring about a better relationship with farmers in their area that they included the farmers in the name of their organization. Indeed, of the 700 members, 100 are farmers and 150 are mushroom growers.

The list of clubs who furnish safety posters to farmers is endless. This is universally accepted among Pennsylvania clubs as a courtesy that is expected of them.

Meyerstown Rod and Gun Association furnished "Men-Working-In-The Field" posters as well as safety zone posters to their farmer friends.

The Charleroi sportsmen hold an annual meeting for farmers, they offer their help to farmers, they con-

Groundhogs are a nuisance and a menace to many farmers. Sportsmen render a real service to these farmers when they reduce the woodchuck population on such farms.





PGC Photo by Batcheler

Many sportsmen's clubs throughout the State print and distribute safety zone posters similar to the one shown above. Farmers welcome the protection they offer to their buildings, livestock and families.

duct fox hunts as vermin-control aids, and they encourage members to make friendly visits to neighboring farms.

To show its appreciation to landowners who do not post their property against fishermen who use the streams that flow through their farms, the Mount Nittany Sportsmen's Association at State College has an annual fish fry in honor of these landowners. In addition, each landowner is made an honorary member of the club.

Washington County Sportsmen's and Conservation League and the Winstead Chapter of the Fayette County Fish and Game Association simultaneously put on one of the most intensive farmer-sportsmen relationship campaigns ever conducted in the state. Every farm in the area was visited and each farmer was given a mimeograph sheet containing the pledges of the sportsmen who asked permission to hunt on the farms. Posters were printed especially to comply with this pledge, and the Washington County poster even set forth a penalty of $25 for violation and $10 for information leading to a violation.

The Farmer-Sportsmen Cooperative Committee of the Allegheny County Sportsmen's League found that satisfactory relationships with farmers in their area could be established at meetings of the Granges. In addition to visiting individual farms, members of the committee kept a close contact with the eight granges operating in Allegheny County.

State Aid

As the farm land under lease by the Pennsylvania Game Commission rapidly approaches the 1,000,000-acre mark, much credit for assistance in signing up individual landowners

throughout the state must be given to the sportsmen, both as individuals and as clubs. Sportsmen continually worked with Game Protectors in seeking permission of farmers to include their holdings in these large parcels that make up the individual farm-game projects.

The financial responsibility of managing more than a million acres under the farm-game plan makes it doubtful if the Commission will be able to continue its expansion indefinitely. That means, of course, that most of the farm land in the state will be outside the huge family of farm-game cooperators; it means that the approach to much of this land will have to be made by the sportsmen.

Hunting By Permission

A plan that has been working well in other states and in a number of sections of Pennsylvania is that of posting land with "Hunting-By-Permission-Only" signs. Sportsmen have learned that one of the biggest gripes of farmers everywhere is that they do not like strangers coming onto their land and hunting without the owner ever knowing who was there, where they trespassed, etc. Farmers, like other people, appreciate courtesy and respect. When they fail to receive it, the "No Hunting" signs often result.

In North Carolina, a canvas was made of farmers who had their land posted against hunting. They were asked this question:

"Would you allow people to hunt on your land if they came to you first and asked for permission?" In nearly every case, the answer was "yes."

As a result of this poll, 40,000 posters were distributed to 500 farmers in the Tar Heel state. The results have been so gratifying that North Carolina sportsmen and game officials declare that "the old, old story of posted land, hard feelings, and trespassing is coming to what may be a happy ending."

Many farmers who requested "Hunting By Permission Only" signs also asked for "Fishing By Permission Only" signs. This resulted in an initial printing of 10,000 of the latter. Commenting on this successful approach, an editorial in "Wildlife in North Carolina," observed:

"No one knows how far these posters will go toward bringing about a happier relationship between farmers and sportsmen, but if the demand for them continues, it appears that a lot of North Carolina land, which is now prohibitively posted, will be open to hunters who ask permission."

While no signs at all might be the Utopia for which Pennsylvania hunters strive, yet, I think most will settle for "Hunting By Permission Only" in place of the discouraging "No Hunting" signs that confront them now.

CHAPTER IV

Predator Control



THE author approaches this chapter with considerable trepidation. As time goes on and we have available more and more reports from wildlife technicians regarding this highly controversial subject, it is apparent that we must temper our enthusiasm for wholesale slaughter of predators. The more a sportsman studies the complex problem of the predator's place in our balance of nature, the more cautious he becomes in expounding positive theories.

Too many uniformed sportsmen, completely unaware of any recent studies made in this field, still go about shouting that "the only good hawk is a dead one," "let us kill every fox in Pennsylvania," "great horned owls are no good," and similar tirades that have been handed down to them from one generation to another.

One point is evident and that is that the complete extirpation of any wildlife species is deplorable. The Pennsylvania Game Commission and other conservation agencies as well as informed sportsmen will fight vigorously against any campaign to annihilate any animal regardless of its apparent lack of economic virtues.

Enthusiasts for predator control have a point in their favor when they cite the fact that man has completely upset the balance of nature in an environment where predators might otherwise be considered more tolerantly. The purists who live by a "kill nothing" theory must recognize the fact that man has created many conditions under which predatory animals may prosper to the extent that desirable species are wantonly decimated.

Where man has created an unnatural situation and predators are abundant as a result, man is justified in trying to bring about a better balance by forcefully controlling them.

However, it is the author's opinion, that because a species must be controlled in a localized situation where it is evidently harmful, it does not follow that every individual of that particular species should be slaughtered wherever it is found. Fortunately it is physically impossible for man to annihilate completely any of our common predators.

Predator control programs help to harvest some of the surplus and keep down the over-all numbers of many so-called undesirable species. In addition, predator control offers an off-season activity for sportsmen which most of them label "worthwhile." Its encouragement can do little harm, and in many localized cases, can do considerable good.

Crow Hunting

So popular has crow hunting become in Pennsylvania that it is a toss-up whether this part of the book should be listed under "Predator Control" or under "Hobbies for Sportsmen." I heard a group of crow hunters once express concern that crows for hunting might become very scarce if the sport became too widespread. This group even talked of asking the Game Commission to regulate the kill and to set seasons and bag-limits.

To enthusiasts like that, predator control is secondary; the sport is the thing. And those who consider it a sport usually go about it in a sporting manner . . . trying to outwit their quarry rather than committing a wholesale slaughter by bombing night roosts.

Game Protector George W. Keppler, of Meadville, is one of Pennsylvania's best known crow hunters. Regarding the sport, he writes:

"Crow hunting offers a good test of skill in outsmarting the wary crow to bring him into range as well as giving all kinds of action and shooting from all angles.

"Real devotees of crow hunting are firm in their belief that it makes a substantial contribution to the economic welfare of the farmer as well as the small game hunter. For not only

is the black marauder a menace to the farmer but destroys a great deal of game. The crow will destroy nests as well as the young.

"I believe the real fundamentals of crow hunting are:

"1. Concealment. This is the main factor regardless of the method used. Be careful in the selection of clothing, which should be dark and of a color that will blend with the background. One cannot be too particular in the attention to the smallest details.

"2. Crow Call. Many are on the market today. Use a good one.

"3. Gun. I leave its selection to you, but choose one that is easy to handle. You get some very quick action.

"I find the early morning and late afternoon the best time to hunt crows. I use a live great-horned owl for a decoy with a string attached so that I can make it move when the crows come in sight. I also place a few dead crows around the owl. This makes the crows more excited. The same results can be obtained with a stuffed owl.

"Place the owl in an open field about 150 feet from the woods. Hidden in the woods, you get shots of the crows as they leave and return to the woods. I also use a live crow as a caller for crows nearby. The mechanical caller is used for crows at a distance.

"In using my call, I give a few short calls of surprise, just as a crow does when he finds something that excites him. When the crows start coming to the decoy, I switch to my live caller. During the shooting, the calling should be the greatest, using a distress call. Live callers may be obtained by keeping some of the crows that are only wing-tipped.

"During the nesting season, or where crows have not been hunted

Crow hunters gather dead crows from around a live great-horned owl decoy following a successful shoot. The same results can often be obtained with a stuffed owl.





PGC Photo by Batcheler

Most sportsmen look upon fox hunting as both sport and predator control. Fox hunts can often be combined with winter feeding projects to give multiple results.

before, I find that I get good results by stringing out a few dead crows and using only my crow call.

"Some hunters have crow calling down so perfectly that they need only use the mechanical call. They have learned to imitate the various calls of the crow.

"By becoming a crow hunter you can enjoy one of our most fascinating sports as well as contribute toward helping our small game. If you get the urge to go hunting in the off-season, go crow hunting."

And a great many sportsmen are taking Keppler's advice. To hunt crows in a sporting manner as suggested, large groups are discouraged. Better results are obtained by two or three sportsmen working together.

Mass killing of crows as a predator control measure is more of a club activity. One of the most active in this field is the Crow Foot Rod and Gun Club in Wilkinsburg. Members of this club operate quite dramatically. On winter nights with snow covering the ground, members dress in white and creep up on a forest crow roost. At a given signal the shooting starts and hundreds of crows are killed in a few minutes.

The Lower Pottsgrove Sportsmen's Association also conducts its activities against crow roosts at night.

A big crow roost at Hillsville has attracted many night shoots from the Western Reserve Club in Sharon. As many as 100 carloads of hunters have descended upon this roost in one night.

Fox Hunting

Fox hunting is in the same category as crow hunting . . . is it predator control or sport or both? Most sportsmen look upon it as both with the sporting angle having the edge.

One of the biggest mass hunts held in the state is the Grand Circuit hunt held at Ligonier annually. Here up-

wards to 400 hunters from Westmoreland County band together for a concentrated hunt over a pre-designated area.

Another group that annually stages a club hunt is the Blaine Hill Sportsmen's Club at Elizabeth.

At Sharon, the Western Reserve club not only conducts club hunts but members also attend fox trapping classes conducted by Game Protectors and other experts.

Predator Contests

A very popular program among sports clubs throughout the state is that of Predator Contests.

The Freeland Unit of the Lower Luzerne County Game and Fish Conservation Association conducted such a contest but declared it open only to young trappers. The 40 boys who participated destroyed 60 foxes and 217 weasels in one winter.

Forty weasels were taken in one season by the Nanticoke camp of the United Sportsmen of Pennsylvania.

Awards are made annually by the Crow Foot Rod and Gun Club, Wilkinsburg, to members turning in the highest score for predators destroyed. This same club several times has won the Cumpston Award of the Allegheny County Sportsmen's League in its annual predator contest.

Another plan in operation among some clubs is that of inter-club contests. The plan is to choose two sides, the losing side (the one having the least points) putting on a dinner for the winners.

The West Earl Lions Club offered a special bounty of $1.00 for every fox trapped or killed in West Earl Township by a member of the West Earl Sportsmen's Association.

The Strausstown Rod and Gun Club pays a bounty of $2.00 on foxes and 25c each on crows and watersnakes.

The game Commission offers a bounty on great-horned owls and encourages hunting them as both sport and control of a serious predator. Fledgling owls, as shown below may be found in the nests during late winter and early spring.





Rattlesnake hunting offers an exciting off-season sport. It is not dangerous if the proper equipment and caution is used although it is best to learn hunting techniques and safety measures from experienced snake hunters.

Other Predators

The great-horned owl is our only native owl that is not protected. Hunting this big bird offers a great deal of sport to some Pennsylvania gunners, but like crow hunting, it is more of an individual or small group activity.

While Game Protector George Keppler of Meadville hunts crows with a great-horned owl, his neighbor, Game Protector Elmer Simpson, of Cambridge Springs, hunts great-horned owls with a crow. The theory is the same . . . crows hate owls, and by bringing a flock of crows into a woodland with a live crow decoy, Simpson very often has the flock turning on a hidden great-horned owl which he could not have found any other way.

Pennsylvania's three unprotected hawks, goshawk, Cooper's hawk and sharp-shinned hawk are the most wary of the birds of prey. Hunters shoot them when the opportunity presents itself, but the average hunter seldom gets within gun range of any of them.

Sportsmen looking for the ultra in crafty sportsmanship might devise some method of outstanding these accipiter or bird hawks. That, indeed, would be a test of skill.

Watersnakes are on the list for points in most predator contests and bounties have been paid by clubs on rattlesnakes killed in Cameron, Tioga and other counties. Hunting rattlesnakes, however, is a thrilling sport to a growing number of Pennsylvania outdoorsmen. Because of the dangers involved, I do not think it will ever become a major sport, but as in crow hunting, the enthusiasts are beginning to worry that the population of rattlesnakes may become so low as to spoil the fun.

All of these examples indicate that predator control is best carried out from the sporting angle when pleasure and healthful exercises are direct benefits. What other benefits accrue will be a controversial subject for many years to come.

CHAPTER V

Winter Feeding of Wildlife



WHETHER winter feeding has a justifiable place in practical wildlife management has been a controversial subject for a long time. Despite the fact that practically every sports club in Pennsylvania considers winter feeding an important part of its annual program, many wildlife technicians believe that it is not only unnecessary but actually a waste of time and money as far as benefits to wildlife are concerned.

It is not within the province of this book to discuss the pros and cons of that phase of the subject. It might be said without fear of contradiction, however, that if the food and cover situation in Pennsylvania was all that it should be, the need for any supplementary feeding during the winter would be unnecessary except possibly in extreme emergencies.

Wildlife in its natural state in Pennsylvania is intended by nature to withstand the rigors of our winters. That much of Pennsylvania no longer can be considered in a "natural state" is abundantly apparent. Thus, the appeal to sports clubs to make winter feeding a major project gains emphasis.

There is a side to the winter feeding program that is endorsed by everyone, including the wildlife technicians who question the results, and that is the educational value. Richard Gerstell in his book, "The Place of Winter Feeding in Practical Wildlife Management," writes:

"Through the interest in birds and mammals which is so created, it is possible to develop in the minds of many persons a desire for greater knowledge of wildlife and the out-of-doors. This is the foundation upon which active cooperation in general conservation programs must be built. Its value cannot be over-estimated."

So, leaving the technical angles to other writers, let us see what has been done, is being done and can be done in winter feeding of Pennsylvania's wildlife.

Clubs At Work

Winter feeding may be interpreted to mean anything from scattering bread crumbs for English Sparrows to dropping tons of corn from airplanes. Each of these has its enthusiasts in the Keystone State.

One of the most outstanding jobs of winter feeding in Pennsylvania has been done by the Sinnamahoning Sportsmen's Association. Located in the heart of big game country in Cameron County, this club has been able to enlist support of many hunters and fishermen who use the area for sport but who reside far away.

Here is a report from the Sinnamahoning Club for the year ending October 1, 1949: purchase and distribution of two tons of salt and 21 tons of corn; donation of 600 man-hours of labor; maintenance of 50 game feeders; and stocking of thousands of trout. Since the close of the 1949 deer season, club members distributed 400 bushels of game feed.

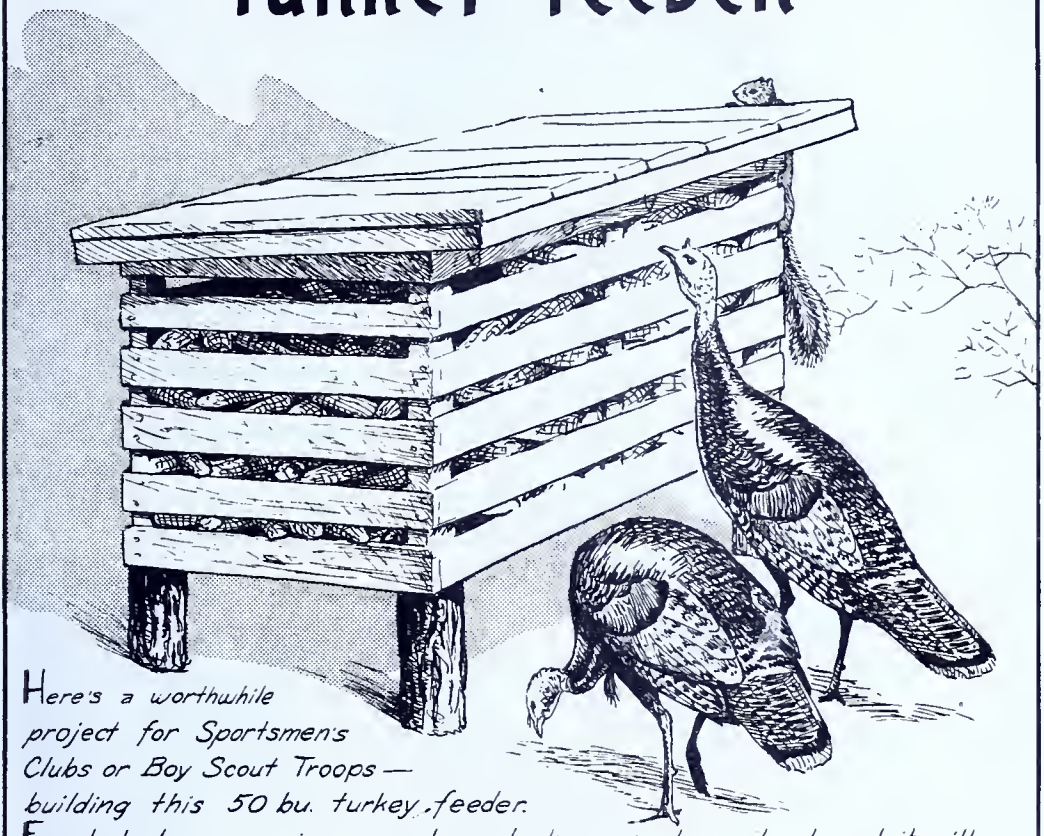
Closely associated with the activity of the Sinnamahoning Club is the Mosquito Creek Sportsmen with headquarters in Frenchville, Clearfield County. Along with its Annual Stream Improvement Day, this club holds a widely publicized Game Feeding Day. On this day, caravans of trucks and cars carry men, corn, lumber, tools, etc., to all sections of northern Clearfield County. Old cribs and lean-tos are filled with food, new ones are constructed and filled.

Tom McKinney of the Mosquito Creek club has this to say about the feeding program: "Game feeding is a winter-long activity and pays dividends not only in game increase but in personal satisfaction. The increase in our turkeys and squirrels has been tremendous and our grouse and rabbit populations show a definite increase."

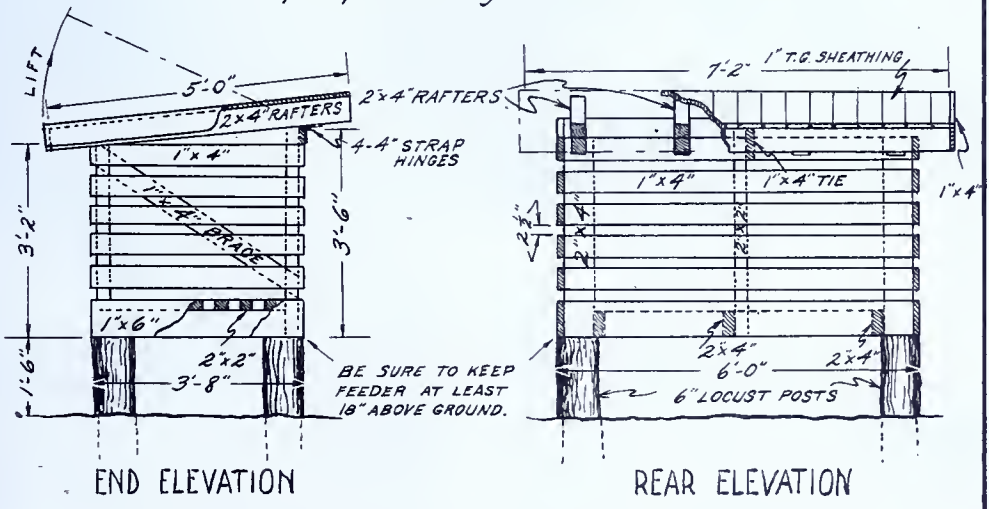
Reporting for the Western Clinton Sportsmen's Association at Renova, H. M. B. Weicksel writes: "We have concentrated our efforts in taking care

"CORN ON THE COB"

TURKEY FEEDER



Here's a worthwhile project for Sportsmen's Clubs or Boy Scout Troops — building this 50 bu. turkey feeder. Erected along a spring run where turkeys customarily travel it will fill their needs when natural food is hard to find. Below are all the specifications you will need.



Squirrels will go for this in a big way, too!

Ted Smith

of small game. Our turkey population has increased amazingly since 1945 and we have put on a drive to erect at least 100 game feeders in this area. We annually buy about 500 bushels of corn for those feeders. If the weather is severe, we try to take care of the deer by browse cutting.

"One year," Mr. Weicksel continued, "we collected large quantities of waste material from hotels, restaurants and even households. The chain stores and others were glad to give us the waste material from their vegetables. Tons of this material were distributed as winter food for wildlife throughout the area."

Several clubs in big game country canvassed the owners of hunting camps in their area asking them to build feeders near their camps. They suggested that each year, before breaking camp, these feeders be filled with corn. It was also suggested that a block of salt be provided.

Mosquito Creek Sportsmen went so far as to offer to build portable corn feeders for clubs that would agree to fill them each fall. Each feeder cost the club about $5.00 and held 10 bushels of corn on the cob. Corn was available for purchase from local farmers.

During a three-year period, Kettle Creek Sportsmen's Association has erected and maintained 50 turkey feeders in Potter County. Ear corn is placed in the feeders right after hunting season and replenished as needed.

Laurel Ridge Sportsmen cooperated with their Boy Scouts in winter feeding plans. The sportsmen furnished the material and the scouts built the feeders. About 250 bushels of grain were used one winter.

Not all winter feeding is concentrated on upland game. The West Chester Fish and Game Association scattered corn and rice in areas surrounding several ponds in Chester County where wild ducks wintered.

Feeding By Air

The most spectacular and dramatic method of feeding wildlife in winter is by airplane. This method of feeding has captured the public's fancy in Pennsylvania and is carried on each winter by some clubs.

Outstanding is the work of the Aero Game Feeding Club with headquarters at the Black Moshannon Airport near Philipsburg in Centre County

This project originally included only one small plane, owned by George Narehood, president of the Aero Game Feeding Club, and his pilot, Allen Butler, of Winburne. Their first flight on a game feeding mission was made December 1, 1946. This started a program of feeding by air which resulted in the formation of the Aero Game Feeding Club on March 16, 1947.

For the historians, one of the early flights to feed game in Pennsylvania was made by Livic Colosimo, of Bradford, in the severe winter of 1942. At his own expense, he made several flights over McKean, dropping food furnished by Bradford Merchants.

One of the greatest projects ever sponsored by the Aero Club was the Wildlife Sky Train on March 14, 1949, when 95 planes and a crowd of 7,000 sportsmen converged on Black Moshannon Airport to drop 25 tons of corn on the cob for wildlife in eight central Pennsylvania counties. This Sky Train, combined with the Allegheny County Sportsmen's League Game Caravan, was probably the greatest game feeding effort ever made in a single day. It is estimated that planes traveled a total of 30,000 air miles on that day.

Four Jefferson County clubs combined to feed by air from the Brae Breeze Airport at Marchand, seven miles south of Punxsutawney. Clubs cooperating were: Punxsutawney Sportsmen's Club, Sykesville Sportsmen's Association, Henderson Town-



Bruno Manno, inventor of the Manno Corn Bomb, with bombs ready to be dropped from the sky to aid hungry wildlife.

ship Outdoor Association; and Big Run Sportsman's Association. Activity of this group centered around Clearfield, Jefferson and Indiana counties.

The Blair County unit of the Pennsylvania Federation of Sportsmen's Clubs is another active group in air feeding. Four planes operate from the county's four airports: Martinsburg, Duncanville, Williamsburg and Tipton. Greatest single operation of the Blair County airmen was on March 18, 1949, when 4,500 pounds of food was dropped. Corn on the cob and bags of scratch feed are both made available to wildlife.

From the aero feeding program of the Ridgway Rifle Club at the Ridgway airport has come to the now-famous Manno Corn Bomb. It is the invention of Bruno Manno and is a method of dropping corn on the cob in the deepest snow and being sure that wildlife for which it is intended will find it.

The "bomb" is a stick with a point

at the bottom, two fiber fins at the top, and 12 ears of corn wired in bundles of four along the shaft. The stick is cut any length, from 30 to 42 inches, depending upon the depth of the snow into which it is to be dropped. Two bundles of four ears each are tied low on the shaft. These may go into the snow. The third bundle of four ears is tied near the fin. These ears are certain to remain above the snow as the stick rockets to earth in a direct path from the plane.

According to a report of the Pennsylvania Aeronautics Commission, the Pine Creek Township Sportsmen's Association, near Brookville, was also active in feeding wildlife by air.

Commission Recommendations

For sportsmen and sports clubs interested in a winter feeding campaign, here are a few hints and suggestions offered by the Pennsylvania Game Commission:

Winter feeding, to be effective, should be continued until late March or early April. With the approach of the breeding season, our wildlife, coming through the winter, needs the additional strength provided by the extra food.

Feeding stations and shelters should be placed in areas where game naturally congregates, close to good escape cover. Feed for wild turkeys should be placed in deep woods along spring runs; food for bobwhite quail should be placed near over-grown fencerows, tangles of grapevine, multiflora rose fences, or other natural feeding or resting cover.

Food for game should never be placed in the open or on the snow. Wild birds or animals feeding in the open are highly susceptible to predatory attack and drifting snow or subsequent falls may soon cover food placed in such locations. Where natural shelters are available, they should be used. However, it is frequently desirable to provide artifically constructed shelters.

These man-made shelters should have a southern or southeastern exposure. They should appear as much as possible a natural part of the environment. Game birds are usually too wary to feed under any shelter which is not well lighted and from which they would not be able to observe the approach of enemies.

Feeding shelters come in a wide variety of shapes and sizes, everything from beer cans to corn cribs. Actually, the shape, materials and method of construction are secondary to the primary requirement that the shelter or feeder be large enough to hold several day's supply of food so it will be available at all times . . . especially when you cannot replenish the supply due to bad weather. The shelter should never be of the type that might boomerang by "trapping" the birds for their natural enemies.

Of all the present known practices in winter feeding, that of leaving a few rows of uncut corn standing in the field in the fall has proven most effective in attracting and feeding ringneck pheasants and bobwhite quail. Placing shocks of corn in the fields or along fencerows is a fair substitute, if they are located near suitable natural cover.

The best feed for birds is: cracked or whole yellow corn, cane, kaffir, sargo, sunflower seeds and Milo maize. None of these grains need to be shelled out as all game birds can pick the seeds from the heads or ears. Never feed moldy grain.

CHAPTER VI

Public Education



"THE exploitation and waste of natural resources with their direct, serious and negative effects on fish and wildlife occurred because the people of this country accepted and condoned such wanton practices. This apathetic attitude has given strength and support to more and more exploitation, and more loss of fish and game and the destruction of their habitat has resulted. It will continue so until the sportsmen and the several State conservation agencies are able to make all our citizens realize that they benefit directly or indirectly from our wildlife heritage. Their combined efforts to stop such practices will then become effective."

That is the challenge to sportsmen everywhere issued by Michael Hudoba in his paper, *Organize A Sportsmen's Club.* His suggestion that sportsmen "enlist the people to become also concerned" is the sound reasoning behind any club's program for public education.

It has been said that people cannot be expected to conserve that which they do not know or value, and unless the public can be made aware of the value of wildlife and other natural resources we cannot expect it to become suddenly conservation minded. It takes time. That is why it is the civic duty of every sportsmen's club to fit a program of public education into its activities.

Conservation activities of the club should reach the public through the press or by air. A live, wide-awake publicity and public relations committee will neglect no opportunity to bring the good work of the club to the public's attention.

Many clubs publish their own magazines and bulletins and these are discussed in another chapter. Other clubs find outlets for their publicity, not only in their local papers, but in such state publications as the GAME NEWS, the *"Angler,"* and the *"Federation News."*

The Mercer County Council of the Pennsylvania Federation of Sportsmen's Clubs first went on the radio with a weekly outdoor program in June, 1938 over WPIC, Sharon. During 12 years of continuous weekly broadcasts, Seth L. Myers, secretary of the council and director of the program, has conducted this 15-minute skit.

In early days of the program, many outstanding conservationists were interviewed by Mr. Myers. Wildlife dramas were played. Then came questions and answers submitted by the public.

During the past two years, the program has been conducted as a weekly interview by Sports Editor Johnny Pepe of the *Sharon Herald,* who asks Myers questions off the cuff or from the mail.

Another weekly outdoor program is conducted by "The Erie County Sportsman On the Air," over WERC, Erie. Cambria County Sportsmen also arranged a series of weekly broadcasts over the Johnstown station. Commercially sponsored programs, both on radio and television, carry much news of local clubs.

Writing on "Radio Broadcasting," Bud Jackson declares that there are two reasons why sportsman's clubs are not getting adequate radio publicity. He says that "either the club is faint-hearted about asking for radio time or, having asked for and been granted it, the club's offerings to the radio station are of little value either to the station, the club, or the audience."

Jackson suggests two methods of getting an outdoor broadcast on the air: "The first consists of preparing a sample program and carrying it to your local radio station manager with a request for time and for suggestions on improving your format. The second method involves merely taking the idea of such a broadcast to your outlet and asking that they work it up and present it themselves."



Hundreds of persons viewed this exhibit at a recent Punxsutawney Chamber of Commerce Fair, erected by Punxsutawney Sportsmen's Club secretary Joe Barkley and local game protectors.

Sportsman's Shows

Another effective form of public education, and often a method of raising funds for the club through commercial exhibitors, is the Sportsman's Show.

The Pennsylvania Federation of Sportsmen's Clubs conducted its first exhibition at the State Farm Show in Harrisburg in 1950, and the Pennsylvania Game Commission now uses three major exhibitions annually . . . State Farm Show, Harrisburg, in January; the Philadelphia Motor Boat and Sportsmen's Show in March; and the Allegheny County Free Fair in Pittsburgh in September. It also maintains a permanent year-round exhibition in Hershey Park, Hershey, Penna.

A large exhibition which today takes up an entire hall has been conducted for the past 14 years by the Mercer County Council at the Stoneboro Fair. As many as 60,000 persons have visited the show in one season.

The Octoraro Sportsmen's Club puts on a very educational Sportsmen's Show each year at the Barnsley Sales Barn, Barnsley, Pa. Thousands

of farmers and other outdoormen are attracted.

Other shows are held annually by sportsmen in York, Lebanon, Lancaster, Hanover, West Chester, Allentown, Punxsutawney and Quakertown.

Other Activity

Safety programs are conducted by sports clubs, and a number of organizations promote safer hunting conditions by offering to aid hunters in sighting in their rifles. This is a major activity of the Ridgway Rifle Club every fall. Members of the club assemble at their rifle range and assist any hunters free of charge to adjust their firearms and also instruct them in the safe handling of guns.

Western Reserve Sportsmen at Sharon conduct safety first aid classes annually.

Clubs throughout the state, willingly post conservation and "hunt safely" signs supplied to them free of charge by the Game Commission. These posters, placed at conspicuous and appropriate places, add their weight to the over-all program of public education.

Highway game kill may be reduced considerably by enthusiastic efforts on the part of sportsmen to publicize the slogan "Give Wildlife A Brake." The Sugar Loaf Rod and Gun Club surveyed one highway in Lancaster County from March 8 to September 16 and counted 65 rabbits killed by motorists. The stretch of road was two and a half miles long. This club used its findings to promote better public understanding of the seriousness of the problem.

Clubs everywhere will be doing a public service by giving wide publicity to the "Ten Commandments of Safety." Here they are:

1. Treat every gun with the respect due a loaded gun. This is the cardinal rule of gun safety.

2. Carry only empty guns, taken down or with the action open, into your automobile, camp or home.

3. Always be sure that the barrel and action are clear of obstructions.

4. Always carry your gun so that you can control the direction of the muzzle, even if you stumble.

5. Be sure of your target before you pull the trigger.

6. Never point a gun at anything you do not want to shoot.

7. Never leave your gun unattended unless you unload it first.

8. Never climb a tree or fence with a loaded gun.

9. Never shoot at a flat, hard surface or the surface of water.

10. Do not mix gunpowder and alcohol.

National Groups

Operating for conservation and education within Pennsylvania as well as other states are two outstanding national organizations: National Wildlife Federation and the Wildlife Management Institute.

The former is an alliance of conservation-minded groups and individuals. It is a non-political and non-partisan organization operated without financial profit. It is dedicated to the preservation and restoration of wildlife, and to the conservation and wise use of all our natural organic resources.

The National Wildlife Federation is well known for its annual sponsoring of Wildlife Conservation Week, for which it produces an annual issue of Wildlife Poster Stamps. The purpose of these stamps is to promote conservation education and to assist in financing the activities of the state affiliated federations.

The Pennsylvania Federation of Sportsmen's Clubs received $1,200 as its share from the sale of Wildlife stamps in 1948. The federation used the money to help abate stream pollution, to inaugurate a Junior Conservation Camp and to contribute $500 to the Conservation Laboratory for Teachers at State College.

CHAPTER VII

Junior Conservation



PENNSYLVANIA sportsmen are to be congratulated upon the fact that they have not lagged in their responsibility in the field of conservation education for Juniors but the surface is still only scratched. The general picture has been encouraging, but how does your club measure up, or, how do you measure up as an individual? Are you doing your share?

Conservation clubs for boys and girls of school age are helping to build America's future. Indeed, any sports club that does not make Junior conservation a big part of its program, definitely is shirking its responsibility as a civic organization.

The nationally-recognized work of the Pennsylvania Federation of Sportsmen's Clubs in its summer Conservation Camp is discussed elsewhere in this chapter. It presents a challenge for others to do likewise. The Conservation Laboratory for Teachers, which has a direct bearing on the Junior Conservation picture also is discussed elsewhere. But let us look at some of the individual efforts in Pennsylvania that are helping to make this state outstanding. These examples may serve as patterns for clubs and individuals whose activity has lagged.

Wysock Junior Club

One cold day in February, 1947, John B. Wysock, of Plymouth, a member of several sports clubs in northeastern Pennsylvania, took four boys fox hunting. He did not know it at the time, but that day afield was the beginning of a movement that resulted in one of the largest Junior Conservation Clubs in the state . . . the Wysock Junior Conservation Club, Inc.

Every boy in Plymouth must have heard of that fox hunt, for immediately, the Wysock home was besieged by youngsters wanting to join the "club" and go fox hunting too. Finally, Mr. and Mrs. Wysock decided to call a meeting in their home. It was held on March 12, 1947. The house was packed with enthusisatic youngsters and the Wysock Junior Conservation Club became a reality.

Growth of the organization was phenomonal. Today, there is a Junior and Senior Department and a Junior Department for girls. Membership in the Junior group numbers about 165, while almost 250 are enrolled in the Senior department.

The purpose of the club is to interest as many youngsters as possible in the out of doors and to teach them good sportsmanship. Qualifications for membership are simple and to the point. Other than age requirements, each must have the written consent of his parents. In addition, each member signs a pledge which reads: "I believe that every citizen should endeavor to see that our forests, wildlife, soils, waters and minerals are protected and conserved for our public good."

The secret of the success of this organization is its activity and its leadership. Among other things, the club feeds game in winter; builds feeding shelters and bird houses; helps stock fish and game; helps game protectors husk corn for winter feeding; goes fishing, hunting, hiking, picknicking and conducts educational trips; distributes posters and pamphlets; plants trees; makes wreaths; and conducts meetings and hobby sessions in its own clubhouse or youth center.

No small part of the success of this organization is due to the untiring efforts of the sponsors, Mr. and Mrs. Wysock. Their work is a shining example for others, and what they have done in Luzerne County can be done in all other areas of the state.

Wildlife Club

A youth organization which boasts of members in several states and in Canada was formed in English Center, Penna., in November, 1948.



First aid courses are conducted by the Wysock Junior Conservation Club of Plymouth.

It is called Wildlife. Originally intended as a vehicle for furthering principles of conservation among young people, the organization now admits adults who wish to aid in promoting a wider understanding of the obligations of youth in conservation and natural resources.

Fred Bowles, a Lycoming County sportsmen, organized Wildlife to provide a means whereby young people could be guided and instructed by adults.

Meetings are held monthly in the club headquarters in English Center. Each gathering is devoted to a discussion of a particular phase of the pledge that all members take. Invited guests, experts in their fields, are speakers at these meetings. Under the auspices of the National Rifle Association, a Wildlife Ranger Junior Rifle Club has been formed.

Here is the pledge taken by members when admitted:

1. Fifty cents for membership dues annually
2. Feed wildlife at least one bushel of grain per year
3. Erect at least one bird house per year
4. Obey all state and federal fish and game laws
5. Learn and practice the art of handling firearms legally and safely
6. Surrender any membership to Wildlife upon revocation of hunting and fishing licenses for violation of fish and game laws
7. Pledge allegiance to state and country
8. Help to prevent forest fires

Westmoreland School

Westmoreland County Sportsmen's League inaugurated something new for county organizations in 1949 when it announced the Westmoreland County Junior Conservation School. Instructors in this new project were two Westmoreland County game protectors, Jack Logan and Carl Jarrett.

Thirty boys, between the ages of



Building bird houses is another activity that stimulates interest among junior sportsmen. Many clubs sponsor contests in which thousands of these artificial homes are constructed and erected in various communities.

16 and 21, representing 19 Westmoreland County sports clubs, enrolled. Classes were conducted every Saturday. Each club sponsoring a boy paid $10.00 for the course of training. The money was used for ammunition, insignias, printing and all materials needed to conduct the school.

Included in the many subjects taught by Logan and Jarrett were fox trapping, firearms safety, crow hunting, tree identification, food and cover, game laws, rabbit trapping and transfer, game shelters, feeding game, hawk and owl identification, soil conservation, pure streams program, etc.

A complete school covers a six months period. At the close of each session, boys are instructed in the formation of Junior Sportsmen's Clubs. Each graduate is expected to form such a club in the community which sponsored him in the school.

Delaware Club

The Youth Educational Committee of the Delaware County Field and Stream Association is doing a top flight job with the Junior members of that group. Each year, highly competitive contests are conducted among the boys, and the awards are very worthwhile.

In 1950, the Delaware County group held a Junior Field Day which attracted 50 boys from 8 to 16 years. They were divided into 10 groups of 5 boys each. Ten senior members of the Association were in charge, one leader to each group.

Seniors were then stationed at the following points: high power rifle range; small bore rifle range; pistol range; the traps; skeet layout; plug casting court; fly casting court and at three points where fish, game and conservation could be discussed. Fish wardens and game protectors assisted the seniors.

How to set traps that will catch foxes is explained by Game Protector Carl Jarrett to boys at the Westmoreland County Junior Conservation School.



Each of the 10 leaders carried a score card and each contestant was scored for each event on a basis of interest, participation, conduct, safety and knowledge. Each scoring item had a high rating of 3, and it was possible for each boy to be scored as high as 15 in each activity, making a possible high of 150 for the day.

High School sophomores and juniors were further screened to select two boys to attend the Junior Conservation School at State College.

Ten boys, three in the age group from 8 to 11, four from 12 to 14, and three from 15 to 16, were selected for a three-day trip to the Brotherhood of the Jungle Cock Campfire in Thurmont, Md. This national event is sponsored by the Outdoor Writers' Association of America annually. All expenses of the 10 boys were paid by the Delaware County club.

In previous years, the Delco group has held contests which were judged over a period of several months, the boys being chosen on a basis of their work in conservation during the period designated.

Other Junior Work

Dozens of other clubs are now sponsoring various Junior Conservation projects, but all of these cannot be cited for their activity. A few examples of what is being done should prove inspirational, however.

An annual event of the Butler County Council of Sportsmen is a Junior Field Day at the grounds of affiliated organizations. Juniors between the ages of 12 and 18 who belong to a junior sportsmen's club or whose fathers are members of clubs affiliated with the Federation are invited to attend.

The entire day is devoted to activities of interest to juniors, including range shooting, mo-skeet, archery, bait and plug casting and demonstrations of muzzle-loader shooting. Game protectors put on a fox trapping demonstration and instruct the boys in crow calling.

The Unami Fish and Game Protective Association has undertaken two projects to encourage the interest of junior members: a Junior Rifle Program, governed by N. R. A. rules; and a Junior Fishing Program. Over 100 boys have participated. The club is also sponsoring a rabbit trapping program for the four local Boy Scout troops.

Typical of the achievements possible in junior clubs is that of the Carrick Junior Conservationists, a group of 38 boys, 9 to 15 years, who live in Carrick, near Pittsburgh. These boys plant pines, walnuts, oaks and hickory trees in their area. They conduct a spring shrub planting for wildlife. Their program includes a bird house building project and a winter feeding program. During National Wildlife Week, the juniors conduct a special program in the school auditorium.

Lebanon County Chapter, IWLA, purchased 2,800 forest trees for a Scout reservation. These were planted by the chapter's junior organization and by the Scouts.

A fatal hunting accident involving two boys who had received no proper training in the handling of firearms was the incident that set off an enthusiastic campaign for a Junior Rifle Club in the ranks of the Charleroi Sportsmen's Club.

A new club, organized in 1950, the Metropolitan Rod and Gun Club, Philadelphia, started right off with a big program for the juniors. Membership in the junior group is composed of both boys and girls between the ages of 12 and 18. The seniors devote their time to teaching the juniors how to enjoy hunting and fishing and how to be good conservationists.

Junior Anglers

A number of clubs have devoted time, money and effort to making



Forestry practices are studied in the forests, not in classrooms, at the Junior Conservation Camp conducted by the Federation each summer. Dr. William Bramble, professor of forestry, Pennsylvania State College, center left, is shown here with a group of junior sportsmen.

fishing and fishing conservation available to their juniors.

Western Clinton Sportsmen's Association at Renova has set aside about a mile of nearby streams as a special fishing area for children under 14.

Mountville Fish and Game Association at Mountville, is working on a project for a special pond for children only.

The junior group sponsored by the Bucks County Fish and Game Club is using the Doylestown Borough Water Dam which is set aside for teen age fishermen. The club stocks the dam.

Another club that has a pond especially for juniors is the Berks County Chapter of the Izaak Walton League.

In 1950, Better Fishing, Inc., Chicago, listed the following communities in Pennsylvania that had entered the National Better Fishing Program for Boys and Girls: Altoona, Bradford, Chambersburg, Chester, Easton, Ellwood City, Erie, Harrisburg, Pottstown, Midland, Quakertown, Reading, Uniontown and York. These events are usually sponsored by local sports clubs or individuals connected with such clubs.

Bird House Contests

In their conservation work with juniors, many clubs sponsor annual bird house contests. Assistance in preparing houses may be obtained from "Pennsylvania Birdlife," a book on Pennsylvania birds published by the Pennsylvania Game Commission.

Springdale is one club that conducts such a contest. C. H. Manley, well-known New Kensington bird watcher, judges the contest for the club.

Erie County Sportsmen open their annual bird house contest to all youngsters in Erie County. Prizes are offered and winning boxes are displayed in various parts of the county.

Western Reserve at Sharon is another club that is pleased with the results of its annual bird house contests.

Other Contests

Here is a list of suggestions for contests to be conducted by sports clubs for their juniors:

1. Bird House and Bird Feeders
2. Poster Contest (Safety First, Conservation, Pollution, Prevent Fires, etc.)
3. Trapping and Predator Control Contest
4. Winter Feeding Activities
5. Scrap Book Contest
6. Fishing Contest (Largest fish of various species)
7. Essay Contest on suggested subjects
8. Rabbit Trapping Contest (in cooperation with local game protector)
9. Tree and Shrub planting contest
10. Casting Contest
11. Photo Contest
12. Rifle and Shotgun Contest

Helpful Hints

1. Father and son activities, such as banquets and picnics
2. Visits to zoo, museum, game farm, fish hatchery, etc.
3. Sports program in competition with other junior clubs
4. Emblems . . . a club emblem for each member by all means
5. Use codes: safety codes, sportsmen's pledge, forest code, code of a good conservationist, etc.
6. Quiz programs on hunting and fishing

Junior Program

The Pennsylvania Game Commission has formulated a working program for Junior Conservation Clubs. Details may be secured from the Commission, but here is an outline of suggested subjects for meetings, covering a period from September to May and based on one meeting per week:



Junior Conservation Camp Supervisor Charles A. Stoddart, Jr., watches as Ronald Dahl, Mill Run, Fayette County, puts into practice some of the things he has learned about cutting logs

September: 1. General Orientation; 2. Election of Officers; 3. Forest Fire Prevention; Hunting and Fishing.

October: 1. What Game Bird or Game Animal Is That? 2. The District Game Protector; 3. Safety First in the Handling of Firearms; 4. The Game Laws and Sportsmenship.

November: 1. Swap Stories; 2. Game Management; 3. Trapping (furbearers and predators); 4. Our Fur Crop and Predators (proper handling of furs).

December: 1. Winter Feeding of Wildlife; 2. Live Trapping and Transfer of Game Birds and Animals; 3. Christmas activity should be outdoors: fox hunt, game feeding, crow hunts, winter camping, indoor shooting contests, etc.

January: 1. Soil Conservation; 2. Tracks and Tracking; 3. Conservation as a Vocation; 4. Winter Camping; Bird House Building; Winter Birds.

February: 1. What Tree Is That? 2. What Hawk or Owl is That? 3. Rifle Markmanship; 4. Hunting Dogs.

March: 1. Fishing Fun; 2. What Fish Is That? How to Catch Trout; 3. Fly Tying; 4. What Snake Is That? Treatment of Poisonous Snake Bites.

April: 1. Fishing Methods; 2. Pennsylvania Fish Laws and Good Sportsmanship Astream; 3. Where to Fish; 4. Proper Handling of Fishing Tackle; Casting Contests.

May: 1. Forest Fire Prevention; 2. Bird Study; 3. Tree Planting; 4. Summer Plans and Review of Year.

Junior Conservation Camp

No activity of Pennsylvania sportsmen has met with greater success, has received wider acclaim or has been lauded more generally than the Junior Conservation Camp, spon-

sored by the Pennsylvania Federation of Sportsmen's Clubs in cooperation with other agencies.

The conservation camp idea developed in this state in the summer of 1948 when 36 boys attended an experimental project at the Civil Engineering Camp of the Pennsylvania State College from July 4 to 10.

This program was sponsored by one division of the federation's eight units . . . the South Central Division. Cooperating were the Pennsylvania State College, Pennsylvania Fish Commission, Pennsylvania Game Commission, Pennsylvania Department of Forests and Waters, the Sanitary Water Board of the Pennsylvania Department of Health and the U. S. Soil Conservation Service.

So highly successful was this experimental camp that the Pennsylvania Federation of Sportsmen's Clubs took it over in 1949 as a statewide project. C. W. Stoddart, Jr., extension director in the School of Physical Education and Athletics at The Pennsylvania State College, was appointed state chairman.

In 1949, a total of 171 boys from 52 counties was trained in conservation education in four camps of ten days each. The camp again utilized the facilities of the Civil Engineer-

Conservation and geology is taught by Prof. J. E. Allen, of Penn State's School of Mineral Industries, to delegates at the Junior Conservation Camp.



ing Camp of The Pennsylvania State College, located 15 miles southwest of State College in The Pennsylvania State College Experimental Forest area of 4,500 acres in the geographical center of the state.

The Junior Conservation Camp is intended for boys of high school age who are leaders in their schools and interested in conservation education. It offers the following opportunities:

1. To learn the conservation or wise use of our natural resources . . . soil, forests, water, minerals, wildlife.

2. To provide for a rich camping experience while studying conservation education.

3. To learn to be of service in their communities and to youth.

4. To learn to live, work and play together . . . social conservation.

5. To better acquaint youth with outdoor hobbies and activities . . . human conservation.

6. To foster leadership in conservation education in various communities in the State.

The administrative set-up for the camp, under the general chairmanship of Charles W. Stoddart, Jr., is composed of eight Junior Conservation Chairmen, one from each division, appointed by the president of that division. It is the responsibility of this group of eight to promote, organize and secure applications from the boys for the camp from the local sportsmen's clubs.

A local steering committee, appointed by Mr. Stoddart guides and aids in the direction of the camp program and activities.

The program committee is composed of representatives of the various state organizations which participate in the educational work. The following schools of The Pennsylvania State College have cooperated: Agriculture, Education, Engineering, Mineral Industries and Physical Education and Athletics.

Individual clubs within each division may sponsor up to 20 boys, but no club may sponsor more than one boy. Only incoming high school juniors and seniors are permitted to attend. Each 10-day camp is made up of 35 to 40 boys, or those chosen from two divisions. The four camps, covering four 10-day periods, will serve 140 boys. The cost to each individual club for sponsoring a boy is $35 (in 1949, it was $30).

The daytime program of the camp is devoted to lectures and field trips. Studied are such phases of conservation education as wild plant and animal food, stream pollution and purification of water, reforestation program, tree planting, forest management, stream improvement and fish hatchery problems, soil and land capabilities, farm planning, farm fish ponds, farm and forest game and habitat, geology, reclamation of lands, erosion and meteorology.

Firearm safety, firing on the range, fly and bait casting, fly tying and archery are studied as hobbies.

All-day field as well as short field trips are conducted from the camping area. Evenings are spent viewing movies on all phases of conservation, with a discussion period following.

Training in the organization of a junior conservation club back home is an important part of the program.

More emphasis is being placed on the necessity of a good follow-up program after the boys have returned home. A state follow-up committee has been formed with Mr. Stoddart as chairman.

The objective of this committee is to centralize information in the hands of Professor George Free, Director of the Conservation Laboratory for Teachers, and Mr. Stoddart for communication to the teachers from the Conservation Laboratory and the boys from the Junior Conservation Camp. Professor Free and Mr. Stoddart are working together with the committee on this program and in a

number of instances teachers from the Laboratory and boys from the Conservation School have coordinated their efforts in local communities.

"The follow-up program is the most important phase of this type of conservation education," Mr. Stoddart declared. "All clubs that sponsor a boy pledge themselves to assist that boy in organizing a junior conservation club. To facilitate this movement, the boys are supplied with all the necessary information before leaving camp."

With this tremendously important program well under way in Pennsylvania and already an outstanding success, it is evident that sportsmen throughout the state can do much in their own communities to further the cause. Practically every county in the state will be touched by the influence of this Junior Conservation Camp. Each county will have potential leaders in conservation of natural resources in these well-trained boys, graduates of the camp. It is most assuredly your duty, as sportsmen, to see to it that these boys are given every encouragement possible in furthering the work of conservation in your community.

Many sportsmen and many clubs have assumed this responsibility according to the replies received by Mr. Stoddart from boys who attended the 1949 camps.

Mr. Stoddart queried the 171 boys who attended the 1949 sessions. From these letters, he received 138 answers, an 80 per cent response.

Organization of 61 junior conservation clubs or junior sportsmen's clubs had already been achieved. This involved a total of 1,900 boys, showing the immediate influence of the 61 boys who returned to their communities filled with enthusiasm for the conservation program.

Twenty-one boys answered that they had joined forces with already-organized junior clubs or senior groups with junior departments. Five boys had concentrated their efforts on their Scout troops and one boy had shared his enthusiasm with a vocational agricultural class.

A few concrete examples of conservation at work will suffice to give sportsmen their cue in playing an active part in the program:

Two boys from the Junior Conservation Camp and one teacher from the Teachers Laboratory (Robert Metzler) have organized a junior conservation club of 35 boys at Ephrata, Lancaster County.

Marlin Martz, East Stroudsburg, returned from the camp and formed a club of 100 boys who have been feeding wildlife, planting trees and stocking trout.

With the St. Mary's Sportsmen's Association as his sponsor, Karl Lang returned from the camp to work with the club in forming a junior group of 75 members. Erection of game feeders and feeding wildlife was their first big project.

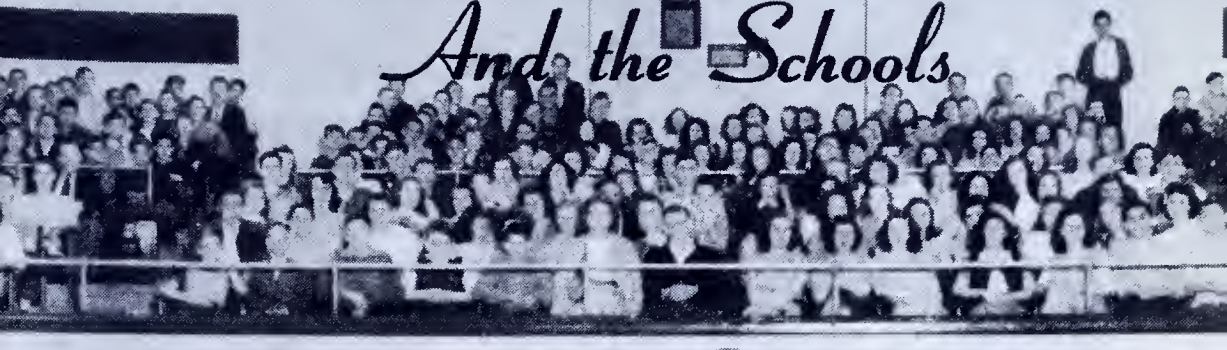
A junior conservation club was formed in the schools by James Smith, Yeadon, Delaware County, with 55 boys participating in the activities that Smith learned at the camp. Spoil bank areas in Schuylkill County will be planted with beech seedlings by 35 boys who are members of a junior club organized by Charles Meck, Cressona, a graduate of the 1949 camp.

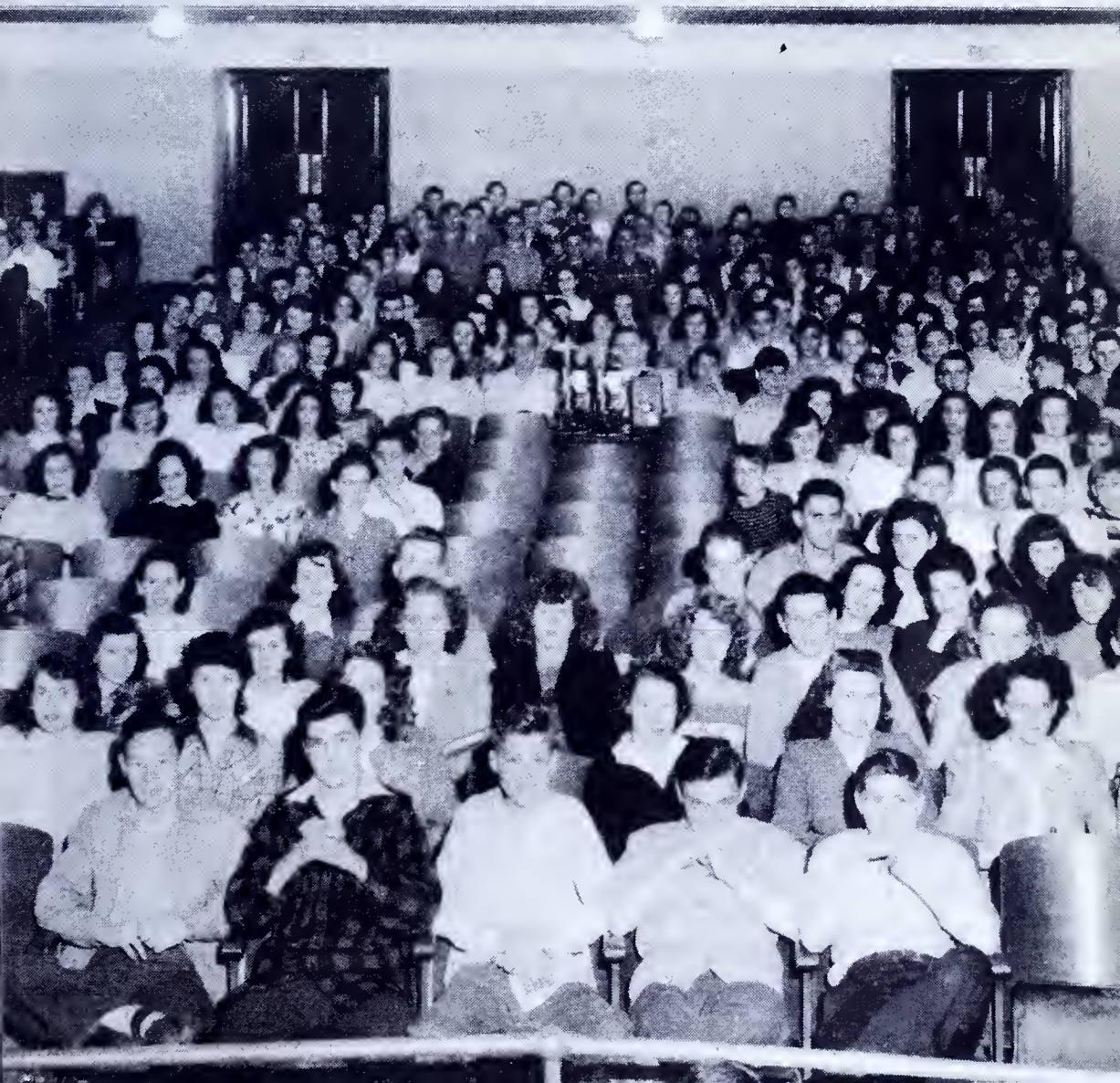
Harry Koehler and Charles Bowers, Geistown High School, Cambria County, sold their program so well in the schools that their club, composed of 30 boys, may be given a day away from school to further its program in the field.

Another outstanding example of coordination between the Teachers Laboratory and the Junior Conservation Camp is the Junior Conservation Club at Punxsutawney. James Stuchell, president, and James Rowbotom, vice-president, are camp graduates. The sponsor of the club, is Thomas Wilson.

CHAPTER VIII

Sportsmen's Clubs And the Schools





BECAUSE of the similarity of the two programs, junior conservation projects and conservation work in local schools very often dovetail on the agenda of sportsman's clubs.

However, there are times when the schools offer opportunities for clubs to achieve conservation results in addition to regular junior conservation tasks.

For example, the West Chester Fish and Game Association donated $65.00 to the West Chester High School library for the purchase of wildlife books to replace those destroyed in a fire that swept the building.

The Big Run Sportsmen's Association gained a big piece of goodwill for their club when they donated $75.00 cash and installed the basketball bankboards in the Memorial Gym in Big Run.

Hellertown Sportsman's Association in Northampton County supplies schools in Hellertown and surrounding areas with subscriptions to THE PENNSYLVANIA GAME NEWS and the *Pennsylvania Angler.*

School Contests

Essay and poster contests are popular activities sponsored by many sportsmen's clubs in local schools.

A total of 45 pupils participated in an essay contest conducted by the Lorain Sportsmen's Association, of Johnstown. "Hunt Safely Week" was the theme. Cash prizes were awarded.

Using National Wildlife Restoration Week as a theme, the Berwick Farmer-Sportsman Club sponsored a poster contest in the Berwick High School. At a banquet, Governor Duff presented the checks to the winning pupils.

Essay contests dealing with Conservation are annual events on the agenda of the Kimberton Fish and Game Association.

The Pennsylvania Forensic and Music League, sponsored by the Extension Division of the University of Pittsburgh, has sponsored high school competitions throughout the state since 1927, but not until 1948 did it conduct programs with wildlife conservation as a district theme. A statewide series of poster, photographic, essay and oration competitions, dealing with wildlife in Pennsylvania, is sponsored jointly by the League and the Game Commission, the latter contributing $250 annually in U. S. Savings Bond awards.

School Clubs

Where an active member of a sportsman's club is also a teacher in the local schools, a very worthwhile situation can result.

David L. Weaver, secretary of the Charleroi Sportsmen, is also a teacher in Charleroi schools. He sponsors a school club which has a lively program including a bird house contest, hunt safely posters, essay contests, gun handling, field trips, fly tying, casting, fishing trips and conservation education. Other club members help Mr. Weaver whenever he calls for assistance.

Thomas Gerber is secretary of the Berlin Sportsmen's Association and also a science teacher in Berlin High School. Mr. Gerber writes: "I sponsor a 'Hunting and Fishing Club' with the idea that my boys will someday be better sportsmen and share responsibilities in the town club."

The Biology Research Club of Perry High School, Pittsburgh, a group of 130 members, have sponsored a number of wildlife conservation projects entirely outside the usual activity of the club. At the suggestion of the teacher-leader, L. Chester Irons, the club built and installed feeding stations for rabbits, pheasants, squirrels, song birds and the like. From the club's funds, 125 pounds of grain and rabbit feed were purchased. A bale of hay was set out for deer.

Other Activities

Shooting and handling of firearms was taught to local high school students by members of the North End Rod and Gun Club, of Allentown.

The Western Clinton Sportsmen's Association sponsored assembly programs in the Renovo school. In the fall, Game Commission personnel spoke; in the spring, representatives of the Fish Commission were scheduled; and at other times, Department of Forests and Waters representatives were brought to the school for programs.

A special course was provided in Renovo for children wanting to learn rudiments of fishing. Included was a field trip to Young Woman's Creek. A class in fly-tying was also held once a week in the high school.

Regarding the work of the Mercer County Sportsmen in the schools, Secretary Seth Myers writes:

"Talks were given in many of the schools. Conservation movies were shown during Wildlife Week. Classes were escorted through a wildlife exhibition during Wildlife Week. The entire Boy Scout Council of the county was entertained at a big meeting with talks, movies and lunches. Many tree planting trips were sponsored."

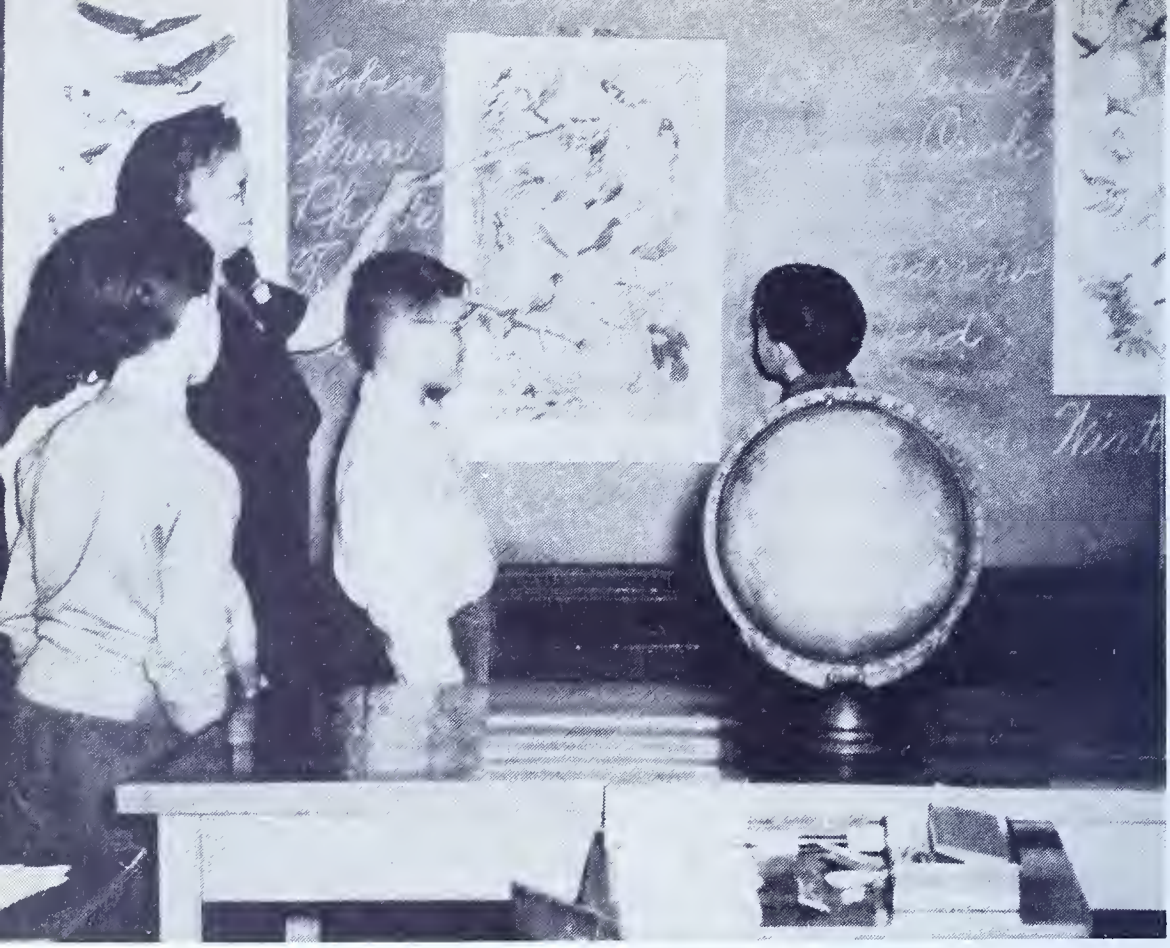
Conservation Education Laboratory For Teachers

That Pennsylvania sportsmen have already sensed the importance of the Conservation Education Laboratory for Teachers conducted at Pennsylvania State College each summer is evident in the support given this project by their clubs and other conservation-minded groups in the state.

Among sports groups, the Pennsylvania Federation of Sportsmen's Clubs leads with its annual contribu-

With a handful of good earth in front of him, Prof. George J. Free talks about soil conservation to four teachers from Allegheny County who attended the Conservation Education Laboratory for Teachers at State College last summer.





Many sportsmen's clubs have provided schools with sets of the Commission bird charts Here a teacher is shown using these colorful charts to aid her students in bird identification.

tion of $500 to support the school. Individual associations, such as the Allegheny County Sportsmen's League, Clearfield County Old Town Sportsmen, Izaak Walton League State Division, Izaak Walton League, Lebanon County Chapter, Southwest Division of Sportsmen and others also contribute.

Relation to Juniors

That the Teachers Laboratory very directly effects the junior conservation program in the state is a certainty. In that regard, Henry Klonower, executive director of the state advisory committee for the Laboratory, has this to say:

"The next generation must necessarily be taught to contribute to the sum total of nature's resources . . . to conserve them, not to waste and despoil them. The fundamental philosophy can be taught as any other subject in the curriculum is taught. It WILL be taught better if teachers are better prepared. The education of teachers in the field of conservation is a step toward achieving the right attitude of mind in the whole-hearted and far-sighted endeavor to conserve the moral, spiritual and physical resources of this generation. The transmission of this attitude to each succeeding generation is a challenge . . . a challenge that is the awakening of moral consciousness."

In 1949, the Conservation Education Laboratory for Teachers concluded its fourth successful summer session. Two three-week courses were conducted under the general direction of George J. Free, associate professor of education at Pennsylvania State College. Sixty teachers, representing 20 Pennsylvania counties, completed the course in 1949.



Pennylvania Conservation Week in April affords sportsmen's organizations a splendid opportunity to sponsor conservation programs and projects in local schools. These students at Oil City's Cranberry High School are shown with a display made during Conservation Week.

Aims of the Course

The Laboratory is not a vacation for teachers nor is it a school for nature study. It is intended primarily as in-service instruction for Pennsylvania teachers who are interested in conservation education.

Following are the aims of the course:

1. To obtain information from first-hand observation of the natural resources of the Commonwealth.

2. To understand the interrelationships between natural resources and between man and resources.

3. To acquire a knowledge of the need for the conservation of natural resources for the continued welfare of the Commonwealth.

4. To understand how to maintain a favorable balance between man and the natural resources upon which he is dependent.

5. To study efficient and practical methods of correlation of the various conservation education programs to actual present-day teaching situations in the classrooms of the public schools.

6. To visualize how conservation of natural resources must be a part of community life and State planning.

7. To afford a cooperative opportunity for teachers to approach the study of conservation education in its various phases.

To be admitted to these summer classes, the applicant must be a teacher in service in the public schools of Pennsylvania; have had at least three years teaching experience in the public schools of Pennsylvania; and have the recommendation of the Superintendent of Schools of the district in which he or she teaches. Three college credits are granted for work completed satisfactorily.

Cooperation Needed

Since the establishment of the Junior Conservation Camp for high school boys in 1949, a cooperative plan has been worked out between Prof. Free and Charles W. Stoddart, chairman for the Junior Conservation Camp. Teachers completing the Laboratory course in conservation are made aware of the boys from their own areas who attend the camp. A spirit of cooperation back home is then fostered between teacher and students, giving both maximum opportunities to put into effect the many programs suggested at their summer sessions.

Sports clubs can further the work of the Conservation Education Laboratory for Teachers by sponsoring scholarships from their own communities. However, the enrollment is limited to about 30 teachers for each of the three-weeks courses.

Perhaps more good may come from the cooperation offered these teachers by sports clubs and individuals in their efforts to sell the conservation story back home. Conservation-minded clubs will make it their business to know which teachers from their areas have had the advantage of this extra-curricular work, and will make it clear to them that their clubs are 100 per cent behind them in their conservation activities.

No stone must be left unturned and no angle must be neglected if Pennsylvania sportsmen are to preserve for the future the hunting and fishing and enjoyment and the general outdoor recreation which is theirs.

The Conservation Education Laboratory for Teachers is certainly one of the important programs to be supported.



CHAPTER IX

Propagating Game

IN 1945, the Pennsylvania Game Commission asked these questions of the sportsmen of the state:

"Do you want more pheasants to hunt each season?"

"Are you willing to help produce them?"

Encouraged by the answers, the Commission inaugurated its Day-old Pheasant Chick Program, offering chicks to sportsmen's clubs and to interested individuals with proper equipment on an enlarged scale.

This program really caught on with Pennsylvania sportsmen and with individual farm-game propagators. At the close of the 1945 season, when 45,990 day-old chicks had been shipped to various projects, the Commission decided to aim at a 100,000-day-old chick program. This was reached in 1948, and in 1949 it was surpassed when shipments reached 119,909. Records were shattered again in 1950 when applications for 167,685 chicks were received.

Several sportsmen's organizations and individuals have done exceptionally well raising chicks. Many organizations have liberated 90 per cent and over of the chicks received. In 1947, the total loss of all the cooperating organizations in one county was less than 9 per cent. The Commission feels that anyone who raises more than 75 per cent of the pheasant chicks is doing an exceptionally good job.

Chicks are available to organized sportsmen's clubs; youth groups, such as 4-H Clubs and Future Farmers of America; and private individuals. The number available to any organization depends entirely upon the amount of equipment it has. Approved mechanical equipment is required and broody hens may not be used. Applications for chicks must be made prior to April 1. Distribution is made between May 15 and July 15.

Clubs or individuals interested in raising chicks should write to the Pennsylvania Game Commission for a folder which explains in detail the entire plan. Complete instructions governing the raising of ringneck pheasants is furnished to all those who receive chicks.

It is not nceessary to have expensive houses and equipment to raise pheasant chicks successfully. Anyone who has equipment satisfactory for raising chickens and a brooder house located so that an outside run can be added has everything necessary to brood these birds. There is no objection to the use of a brooder house that has been used for chickens, provided the house, brooder stove, and all equipment such as feeders and water fountains are thoroughly scrubbed with lye water, using one ounce of lye to each gallon of hot water.

Not over 250 chicks should be started under one brooder and each chick should be allowed one-half square foot of floor space. After the pheasants are six to seven weeks old, they are placed in a rearing or holding pen until they are liberated. Here, 20 square feet of space per bird is required.

In 1950, the Game Propagation Division of the Pennsylvania Game Commission had received applications for 81,520 chicks from 287 sportsmen's organizations throughout the state. Applications in 1950 from farm-game cooperators amounted to 86,165, making a total of 167,685 day-old chicks.

Sports clubs requesting 1,000 or more chicks in 1950 were:

Consolidated Sportsmen of Lycoming County	4850
Erie County Sportsmen's League	2500
Delaware County Field and Stream Association	1600
Union County Sportsmen's Association	1280
Clinton County Fish and Game Association	1250
Towanda Gun Club	1000
Monocacy Field and Stream Assoc., Bethlehem	1000



Ringneck pheasants just hatched at the Western Game Farm of the Pennsylvania Game Commission. Sportsmen's clubs will receive many of these as day-old chicks.

Lower Mt. Bethel Twp. Rod and Gun Club, Bangor 1000
Laurel Ridge Sportsmen's Association, Somerset 1000

Some idea of how expert many clubs become in successfully raising day-old chicks to maturity may be gleaned from the fact that in 1949 there were 71 organizations able to raise 90 per cent or over.

136 Clubs Spend $58,402.82

A survey of Pennsylvania sportsmen's clubs made by *The Federation News,* official organ of the Pennsylvania Federation of Sportsmen's Clubs, revealed that 136 clubs distributed over 35 counties spent $58,402.82 to improve hunting and fishing in this state in 1948.

"Considering that only 136 units of a possible 1,028 in 62 counties replied to the questionnaire, it is estimated that the sportsmen spend more than $250,000 annually to purchase game, fish, winter food and improved cover," the *Federation News* declared.

In addition to the $16,291.59 for raising day-old chicks provided by the Commission, the 136 clubs also made an additional expenditure of $3,539.50 for purchase of ring-necked pheasants for release.

Banded Birds

Some sportsman's clubs have become so interested in their pheasant propagation projects that they have entered into research programs also. In an effort to check on hunting results of birds released, a number of clubs have banded their male birds.

Eleven clubs in the southcentral part of the state joined together in banding 558 cock birds released in their area. The bands were plastic and 11 different colors were used, each color representing birds raised by individual clubs. Cooperating

clubs were: Duncanville Wildlife Association, Polecat Sportsmen's Association, Shawnee Conservation Club, Halter Creek Coon Hunter's Association, Henrietta Sportsmen's Association, Martinsburg Sportsmen's Association, Ormenia Sportsmen's Association, Clappertown Sportsmen's Association, Ganister Sportsmen's Association and Newry Sportsmen's Association.

All cock birds released by the Pike Township Sportsmen's Association in Berks County wore a band marked "Pike" with a number. Club members requested hunters to notify their publicity chairman if banded birds were shot.

A similar plan was used by the Daniel Boone Rod and Gun Club in the Amity, Exeter and Lower Alsace area in Berks County. Each of 170 cock birds were marked with "D.B.-49" so that stocking success could be measured during the hunting season.

Rabbit Trapping

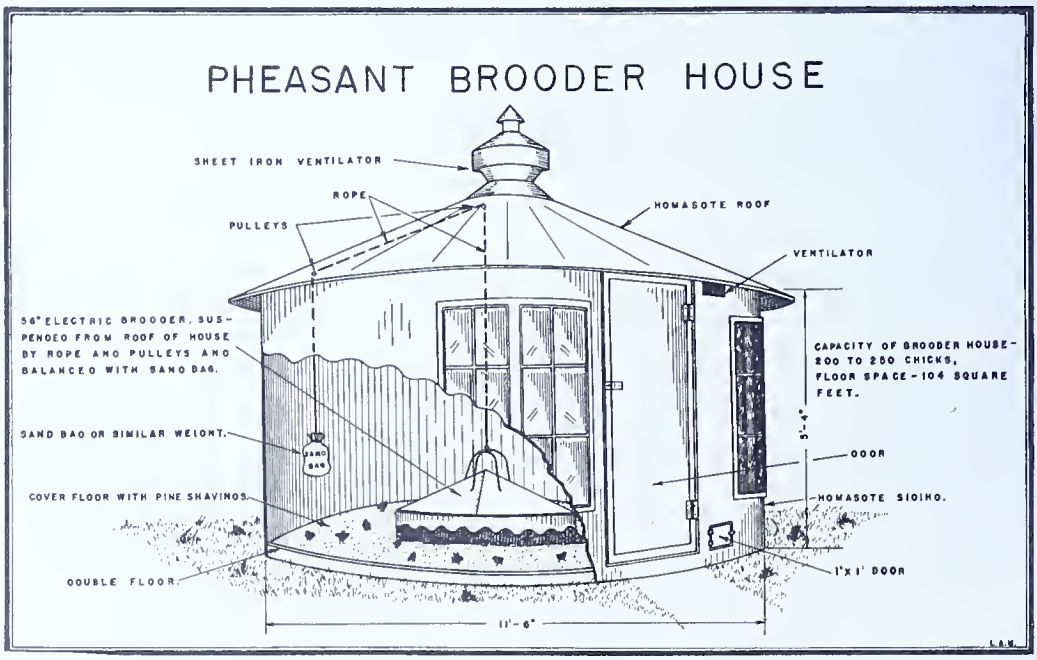
Propagation of rabbits by sportsmen's clubs in Pennsylvania has followed two main courses: the outright purchase and release of Missouri and Kansas rabbits; and the trapping of rabbits in no-hunting areas and releasing them in areas where the public is permitted to hunt.

In the survey of club expenditures for propagation of fish and game conducted by *The Federation News,* it was revealed that the purchase and release of wild rabbits was the most expensive item listed. In 1949, the 136 clubs reporting spent $23,465.68 for Missouri and Kansas stock.

The Pennsylvania Game Commission has diverted much of the funds formerly spent in this manner into Rabbit Farms where ideal conditions are created for breeding and where rabbits are trapped for distribution in less favored areas.

Many sports clubs are using funds to improve food and cover instead of releasing rabbits in areas where survival is doubtful.

Another project that has interested sportsman's clubs everywhere is the Commission's plan of live trapping and transferring rabbits from closed hunting areas to lands open to public shooting. In this plan, rabbits are trapped by game officials or their agents, the latter usually being Boy





Rabbit trapping is another project that has interested many sportsmen's clubs. Members serve as agents under the Commission's program and collect 75 cents for each rabbit trapped and released. Shown here are members of the Harrisburg Hunters and Anglers Association.

Scouts, high school students and deputy game protectors. Trapping is done with box traps furnished by the Commission and under the supervision of district game protectors.

The Commission pays 75c each for rabbits trapped and released, and many sportsman's clubs have added to this amount to encourage local participation. During the past two years (fall of 1948 until spring of 1950), about 70,000 rabbits have thus been liberated from areas closed to hunting. In many areas, the animals were doing considerable damage, especially to gardens.

Other Game

Some quail chicks are distributed each year by the Commission to a few sportsmen's organizations, but this program has been on a reduced basis and no emphasis has been put on it. Adult quail are purchased and released by a number of clubs however.

In an article in THE GAME NEWS sometime ago, Roger M. Latham gave sportsmen's clubs some food for thought in his "Home Grown Ducks." He suggests the propagation of mallard ducks by sportsmen in Pennsylvania. He writes:

"Mallards have proven their ability to reproduce successfully on the larger mountain streams, small beaver dams, cattail marches, anybody's old mud pond, and on all the larger streams and rivers running throughout the farmland of the state. Limited stocking has been tried by private individuals, by clubs and even by the Game Commission, and the degree of success has been remarkable in every case. About four hens and a drake dropped every half mile to a mile along the better streams in the spring will, most of the time, accomplish wonders for the early season duck shooting the following fall. Not only do they show up in surprising numbers, but they provide as good sport as true wild stock from Canada, especially after the first shot."

Regarding the cost of such propagation, Latham writes:

"No one is giving good mallards away, but they cost much less than ringnecked pheasants, wild turkeys and other upland game birds, and the results obtained, in units of game produced, are usually much greater than those from stocked upland game species. So, you have a lower initial cost coupled with higher production which makes the purchase of mallards a "wildlife bargain."

Latham makes this concluding suggestion to clubs:

"Many sportsmen's clubs might prefer to raise their own ducks, rather than purchase adult stock from commercial breeders each spring. Mallards are easier to raise than ringnecks, and much easier than bobwhite quail, so a sportsmen's group should have great success with them. The tiny ducklings grow like weeds and require less heat and handling than many game birds. Young mallards can be stocked at 10 to 12 weeks with excellent chances for survival; and some birds could be held over the winter for spring planting.

"Try it one season, and see the results for yourself. There isn't a sportsmen's club in the state that isn't within a short distance of duck water. Unlike fish, the mallard is tolerant of pollution, and will often prosper along streams which contain little or no fish life. Every lake, every pond, every beaver dam, and every mile of stream or river is a potential breeding ground for mallards or wood ducks. The results have been excellent with both species on the Tuscarora, Loyalsock, Conodoguinet, Brandywine, Penns Creek, Lackawanna, Neshannock, Octoraro and many other creeks and streams like them."

Sportsmen's Publications



MOST active sportsmen's clubs have some sort of periodic publication. These range everywhere from handwritten postcards to printed and bound magazines. The majority of clubs confine their publications to the printing or mimeographing of the minutes of previous meetings and announcements of things to come. At least twenty or so others are more ambitious in their publications.

Heading the list is *The Federation News,* official monthly publication of the Pennsylvania Federation of Sportsmen's Clubs. It is edited by Charles H. Nehf, 1038 N. 21st St., Allentown, Pa. This paper, 9½x12 inches, contains news of interest to sportsmen throughout the state. Advertisements are accepted and subscriptions are sold for 50 cents a year. In December, 1950, about 423 clubs received this publication.

Another bound, slick paper little magazine is that of the *Erie County Sportsman.* This is the brain-child of its editor, Jerry O'Hern, who handles complete publication, including advertising. Regarding the birth of this magazine, O'Hern writes:

"I figured that the only way we could really educate the sportsmen of the county was to get our 'message' to them somehow. Since only a small percentage of our members attend the monthly meetings, the magazine was the only way I could see for us to reach all of the members."

About the *Boone News,* monthly publication of the Daniel Boone Rod and Gun Club, Arthur W. Burkert, recording secretary, writes:

"Two years ago, a committee was appointed by the president to make plans for a publication to be known as *The Boone News.* The committee sold ads, charging $6.00 for the smallest spaces, the ads to appear on the back of the publication. This money from advertisers takes care of the cost of printing and mailing *The Boone News.* The president appoints the editor and it is his duty to collect news and to give it to the printer 10 days before our meeting."

Melvin J. Horst is editor of the *West Earl Sportsmen's News,* a monthly publication of the West Earl Sportsmen's Association, Brownstown. Editor Horst is enthusiastic about the results of his publication, and writes:

"The new interest that this publication has created in our club is unbelievable. About eleven years ago, in fact ever since our club was organized in 1939, the average membership was between 50 and 60. This year, our membership has increased to 130 and our club meeting attendance runs as many as 50 persons."

One of the finest publications in the state is *Little Lehigh,* official organ of the Lehigh County Fish and Game Protective Association with a membership of almost 4,500. This paper is educational and newsy in its content. A fine line-up of advertisers makes publication profitable. Ralph H. Walker is editor.

Other publications of Pennsylvania sportsman's clubs that are worthy of special study by clubs planning to publish their own paper or magazine are as follows:

Holmesburg Fish and Game News, published by the Holmesburg Fish and Game Protective Association, Philadelphia 36.

Octoraro Sportsmen's Club News, published by the Octoraro Sportsmen's Club, Oxford, Pa.

Monthly Bulletin of the Great Swamp Fish, Game and Forestry Association, Quakertown, Pa.

New Bulletin, published by the Southern Chester County Sportsmen's and Farmers' Association, Kennett Square, Pa.

Sporting News, published by the West Chester Fish and Game Association, Inc., West Chester, Pa.

The Unami Turtle, official organ of the Unami Fish and Game Protective Association, Inc., Emmaus, Pa.

The Sportcaster, published by the Perkiomen Valley Sportsmen's Association, Collegeville, Pa.

York County Sportsman, official publication of the York County Federation of Sportsmen's Clubs, 118 W. 6th Ave., York, Pa.

Club News, published by the Delaware County Field and Stream Association, Inc., P. O. Box 13, Norwood, Pa.

Waltonian News, published monthly by York Chapter No. 67, Izaak Walton League of America, York, Pa.

Waltonian News, published by the Lebanon County Chapter, Izaak Walton League of America, Lebanon, Pa.

The Tomahawk, published by the Tedyuscung Sportsmen's Association, Inc., Krams and Manayunk Aves., Philadelphia 28.

Bulletin, Millcreek Rod and Gun Club, Sheridan, Pa.

The Lycoming County Sportsman, published by the Consolidated Sportsmen of Lycoming County.

State Publications

All live-wire sportsmen will want to subscribe to their official state publications:

The Pennsylvania GAME NEWS, published monthly by the Pennsylvania Game Commission, Harrisburg, at $1.00 per year, $1.50 for two years and $2.00 for three years. A special club rate of 50 cents is granted clubs who submit the names of ten or more at one time and applies to Scouts, Future Farmers and other youth groups.

The Pennsylvania Angler, published monthly by the Pennsylvania Fish Commission, Harrisburg, Pa., at 50 cents a year.

Pennsylvania Forests and Waters, published bi-monthly by the Pennsylvania Forests and Waters, Harrisburg, Pa.

This plaque of the conservation pledge was donated to the Punxsutawney Sportsmen's Club by Mr. R. S. Phillipe, right, for erection in the club's Sportsmen's Park. The club bought an abandoned farm in 1947 and have developed it into a recreational center for the community.



Publications of the Pennsylvania Game Commission

Pennsylvania Wildlife
A 48-page bulletin describing Pennsylvania game birds and animals and furbearers, including a history of the wildlife conservation movement in the Commonwealth. Illustrated with color plates and photos of 25 native species. Price $.25.

Pennsylvania Birdlife
This booklet contains 72 beautifully illustrated pages including 80 outstanding bird photographs by Hal Harrison, the author, and six color plates depicting 124 species of Pennsylvania birds. Price $.50.

My Land And Your Land
Four conservation books for children. Each is written with a special appeal to a particular age group or grade in school. Illustrations, both in color and black and white, give life to the 160-page text. Price per set of 4 books—$.50.

The Farmer and Wildlife
A tremendously valuable bulletin dealing with farm problems and discussing methods of improving the farm for wildlife. Every suggested project is splendidly illustrated. Price $.25.

Sportsman's Guide to Wild Ducks
A valuable handbook describing 17 common wild ducks, their flyways and migration routes, and their restoration and management. Beautifully illustrated in full natural color, the booklet is a fine aid in waterfowl identification. Price $.25.

Colored Bird Charts
Four charts beautifully illustrated by the late Jacob Bates Abbott, nationally known wildlife artist. 1. Game Birds—31 game birds found in Pennsylvania; 2. Summer Birds—23 song and insectiverous birds; 3. Winter Birds—26 birds which are either permanent residents or winter visitors; 4. Birds of Prey—13 hawks and owls. Price $.50 singly; $1.50 per set.

Well, What's Wrong?
A 32- page booklet containing full-page nature quiz drawings for conservation education and nature study use. Free.

Wildlife Conservation—Past, Present and Future
A 28-page booklet containing a history of conservation in Pennsylvania. Chapters devoted to the land we inherited from the Indians, the era of exploitation, the era of conservation, water and the water cycle, importance of plant life and other phases of conservation. Recommended for high school and adult reading only. Free.

When You Get Your Deer, Don't Waste It
A four-page leaflet describing how to skin, quarter and preserve deer along with information on curing, drying, tanning and making buckskin. Fully illustrated. Free.

The Ruffed Grouse
A four-page leaflet reprinted from the September, 1950 issue of "GAME NEWS" containing a full page color portrait of Pennsylvania's state bird and three pages of text on life history, management and conservation. Free.

Fires That Burn in the Spring
A four-page leaflet describing the damage done by spring burning of grassland. Free.

How to Trap Furbearing Animals
A 16-page leaflet fully describing and portraying various sets and trapping techniques for taking various predators and furbearers. Free.

Hunting Is Big Business
A statistical summary of game kill, open seasons, hunting accidents and license issue in Pennsylvania from 1915 to date. Free.

Pennsylvania's Cooperative Farm—Game Program
An illustrated pamphlet explaining the purposes and operation of the Commission program designed to improve farmer-sportsmen relations and maintain public shooting in agricultural areas. Free.

Pennsylvania's Day-Old Pheasant Chick Program
An illustrated pamphlet explaining a pheasant rearing program for organized sportsmen's clubs, qualified private individuals, and farmers. Contains essential information on equipment and methods of successfully raising pheasant chicks and outlines rules and regulations of the Commission program. Free.

Attracting Birds
An 8-page pamphlet containing suggestions on how to attract song birds both in summer and winter. Includes sketches of many types of bird feeders and shelters and lists dimensions of bird houses. Free.

Farm Youth And Wildlife
A GAME NEWS conservation education pamphlet of special interest to Future Farmers, 4-H Clubs and other farm youth groups. Suggests many programs and practices for improving wildlife habitat on the farm. Free.

Pennsylvania Wildlife and Its Tracks
A GAME NEWS conservation education pamphlet containing short descriptions of Pennsylvania game animals and furbearers plus interesting information on their tracks. Free.

CHAPTER XI

Field Trials



THE value of dogs to hunters as companions and as retrievers of crippled game cannot be over-emphasized. The slogan, "Use a dog and save a cripple," has received deserved publicity throughout the country.

It is not the purpose of this publication to expound the virtues of the various breeds of hunting dogs. Rather, the intent is to point out the year around value and pleasure of dogs to sportsmen. Nowhere does that situation exist more noticeably than in the many field trials enjoyed by outdoorsmen throughout the Keystone State.

Field trials are held in this state for beagles; bird dogs, including setters, pointers and Brittany spaniels; foxhounds and coonhounds.

Beagle Trials

Pennsylvania is recognized as the national "hot spot" of beagling.

Nowhere do beagle field trials and the breed itself receive more enthusiastic support.

Of the 17 associations of beagle clubs that make up the International Beagle Federation in America, five are entirely or principally made up of Pennsylvania members.

In addition, 12 of the 31 clubs that make up the Eastern Federation of Beagle Clubs are Pennsylvania organizations.

All are banded together to improve the breed and promote interest in beagling.

With the new law extending the period for holding field trials in Pennsylvania under permit to include the entire month of April, beaglers may now pursue their sport from August 20 to April 30 each year.

An additional law affecting the sport, passed by the last General Assembly, increased from four to six the number of permits for special dog training areas in each county.

In 1949, there were 171 American Kennel Club licensed field trials for beagles throughout the country. Of that number, more were held in Pennsylvania than in any other state. In addition, there were many AKC sanctioned trials which drew huge crowds and hundreds of dogs. Over 25,000 beagles participated in licensed trials in 1949.

The growth of beagling in Pennsylvania has been rapid, and interest has soared in the past decade.

As an example, take the Eastern Lake Erie Beagle Association. According to Secretary E. F. Harvey, the association was formed in 1942 with a charter membership of five clubs: Oldtown at DuBois; Oil Creek at Titusville; Presque Isle at Erie; Frontier at Buffalo; and Lake Erie at Jamestown. Today, the association's 14 clubs represented about 1,500 beaglers, making it one of the largest in the country.

Another Pennsylvania association that has forged ahead is the Tri-State Association, composed of 12 member clubs, all but one from Pennsylvania. Secretary Joseph R. Philips cites the fact that this group grew from a four-club association in 1932 to its present status. The original clubs were Canonsburg, Imperial, Coraopolis and Steubenville.

West Penn Association is another progressive group, composed of 15 clubs, all from Pennsylvania, except one. John Greer is the wide-awake secretary.

Beaglers are set up to have a voice in the affairs of the American Kennel Club. Each of the 17 associations that make up the International Beagle Federation elects a delegate to the Beagle Advisory Board. This board meets annually in New York with the American Kennel Club, serving as a go-between for the federation and its associations and the AKC. This board handles beagledom's business on a national scale.

Following is a list of associations with their Pennsylvania member clubs. This list will serve as a guide



Spectators watch as "Scout of Wasteland," a winner in the 15-inch class is measured at a beagle trial. Owner Paul Riggie stands behind his champion beagle. Pennsylvania is recognized as the national "hot spot" of beagling.

to those interested in contacting clubs in their area:

West Penn Association of Beagle Clubs, John Greer, Secretary, Box 108, Volant, Pa. Clubs: Cambria, Central, Chimney Rocks, Fayette, Fort Hand, Franklin Township, Indiana County, Pucketos, Sharpsville, Shenango Valley, Spring Church, Tri-County, Webster and Williamsburg.

Tri-State Association of Beagle Clubs, Joseph R. Phillips, Secretary, Imperial, Pa. Clubs: Allegany, Beaver Valley, Break-Neck, Cannonsburg, Chartiers Valley, Clarksville, Coraopolis, Crowfoot, Imperial, Keystone, New Eagle and Waynesburg.

Eastern Lake Erie Association of Beagle Clubs, E. F. Harvey, Secretary, 203 Capen Blvd., Buffalo, N. Y. Clubs: Clearfield, McKean County, Northern Tier, Oil Creek, Oldtown, Presque Isle, Rayburn, Sandy Hollow and Seneca.

The Delaware Association of Beagle Clubs, L. T. Daubert, Secretary, R. D. 2, Walnutport, Pa. Clubs: Bunker Hill, Carbon, Lackawanna, Monroe, Southern Tier, Susquehanna and Wyoming Valley.

Atlantic Association of Beagle Clubs, R. J. Conlan, Secretary, 270 Madison Ave., New York 16, N. Y. Clubs: Harrisburg, Lykens Valley, Pocono, Stein's Hollow, Swatara and York-Adams County.

William E. Golding, 16 Wolfle St., Glen Cove, N. Y., is Secretary of the *Eastern Federation of Beagle Clubs* to which a number of the above clubs belong.

Bird Dog Trials

Not all sportsman's clubs that conduct field trials are federated or associated with state and national groups. Many conduct trials privately and under their own rules and regulations.

Such conduct does not make the sport less interesting, perhaps, but it does make the gathering of information concerning such activities quite difficult. Thus, as in the case of the foregoing account of beagling in Pennsylvania, this present piece on bird dog trials will be confined to those clubs that are affiliated with a recognized national authority. In the case of beagling, it is the American Kennel Association; in bird dog field trials, it is the American Field, 222 W. Adams St., Chicago, Ill.

Pennsylvania has the distinction of conducting one of the nationally-recognized bird dog championships in the spring . . . Pennsylvania Open Grouse Championship . . . and a fall meet that has championship ranking although not championship acclaim . . . National Grouse Derby. Both events are sponsored by the Pennsylvania Field Trial Club, whose long-time secretary is Edgar D. McKean, 5800 Baum Blvd., Pittsburgh 6, Pa. Both trials are held on the club's 2,000-acre tract at Marienville in Forest County, and both are run on native grouse, not planted birds.

The Grand National Grouse Championship, Inc., is a Pennsylvania corporation with Sam R. Light, Punxsutawney, as its president. This trial is held annually in the fall in New England, New York, Michigan or Pennsylvania. For the past two years (1949 in New York and 1950 in Michigan) a Pennsylvania dog has annexed the Grand National title. He is Sam L's Skyhigh, a setter dog, owned by Sam R. Light and handled by Larry Tuttle, of Johnsonburg.

Two other grouse trials are run on native birds in Pennsylvania, both spring and fall, and both are patronized not only by Pennsylvania owners but by grouse dog men from other regions.

One of these is the Venango Grouse Trial Club, Inc., running in the Marienville vicinity. The secretary is Page Van Dervort, Summerville, Pa. The other is Black Forest Grouse Trial Club, running in the Black Forest near Jersey Shore. The secretary is Charles Elder, Jersey Shore.



The gallery awaits the breakaway at a spring meeting of the Pennsylvania Field Trial Club near Marienville in Forest County.



Henry Blatner Photo

In coonhound field trials the course ends at a tree in which a raccoon has been caged. The prize money is awarded to the owner whose hound is first to run between two flags placed at a given distance from the tree, and the owner of the first dog to bark up the tree in which the coon is tied.

Other bird dog trials in Pennsylvania, recognized by the American Field, are as follows:

Lehigh Valley Pointer and Setter Club, Allentown
Beaver Valley Pointer and Setter Club, Rochester
York Pointer and Setter Club, Inc., Indiantown Gap
Bridgeville Pointer and Setter Club, Bridgeville
Greater Pittsburgh Field Trial Association, Butler
Rolfe Sportsmen's Club, Johnsonburg
Northeastern Pennsylvania Field Trial Association, Pittston
Keystone Setter and Pointer Club, Reading
DuBois Beaver Meadow Field Trial Association, DuBois
Central Pennsylvania Field Trial Association, Lewiston
North-Montour Sportsman Association, Exchange
Tuscarawas Valley Pointer and Setter Club, Philadelphia
Middle Atlantic States Regional Amateur Championship Association, Indiantown Gap
Brookville Field and Gun Club, Brookville
Valley Forge Field Trial Association, Fort Washington
Bradford Field Trial Club, Bradford
Erie Pennsylvania Field Trial Club, Erie
Bull Creek Sportsman's Club, Saxonburg
Union County Sportsman's Association, Lewisburg
Columbia County Field Trial Association, Berwick
Brockway Field Trial Club, Brockway
Shamokin Valley Association, Elysburg

The only field trial exclusively for brittany spaniels that I know of in

Part of the huge gallery that followed spring derby trials of the West Penn Beagle Association on the grounds of the Spring Church Beagle Club, Armstrong County.





Henry Blatner Photo

They're off! And though rarely, if ever, do dogs in a coonhound field trial catch the coon, they really stretch out and go!

Pennsylvania is that of the Pennsylvania Regional Field Trial of the American Brittany Club, Inc., held at Saxonburg. Secretary of this association is Elias E. Ritt, 7400 Hermitage St., Pittsburgh, Pa.

Coonhound Trials

Coonhound field trials have become very popular in recent years, but are still new compared with trials of other breeds. Indeed, many old-time 'coon hunters have shown an ever increasing interest in field trials to the extent that dogs are being bred with the trials, rather than the night hunts, in mind.

A coonhound field trial, briefly, is conducted in this manner: Raccoon scent is dragged in a bag over the course to be followed later by the hounds. The course ends at a tree in whose branches a raccoon is tied. The dogs are run in heats. The finalists are chosen from the heats and the prize money is awarded to the owner whose hound is first to run between two flags placed at a given distance from the tree, and the owner of the first dog to bark up the tree in which the coon is tied.

Two very active associations in Pennsylvania are the Western Pennsylvania Federation of Coon Hunters and Field Trials Association, and the Southern Association of Coon Hunters. Frank Dydek, R. F. D. 6, Mercer, is secretary of the former; Joseph Oravecz, of Portage, is secretary of the Southern group.

Members of the Western association are: Leetsdale, Mercer, Kittanning, New Castle, Butler, Vandergrift, Cochranton, Bakerstown, Franklin, Leesburg and Albion. Members of the Southern association include Som-

erset Pike, Portage, Wilmore, Defiance and Claysburg.

Individual clubs throughout the state include coonhound field trials in their programs. Among the clubs are these: Berks County Coon Hunters Association, Kutztown; Bucks-Montgomery Coon Hunters Club, North Hills; Chester County Coon Hunters, Glen Moore; Huntingdon Coon Hunters Club, Huntingdon; Lancaster County Coon Club, New Holland; Lehigh Valley Coon Hunters Association, Allenown; McKean County Coon Hunters, Bradford; Schuylkill Coon and Fox Hunters Association, Orwigsburg; York-Adams County Coon Protective Association, York; Octoraro Sportsmen's Club.

Fox Hunts and Field Trials

There are three kinds of fox hunts in Pennsylvania and all are different.

One is the type discussed in the chapter on "Predator Control." In this one, the idea is to kill the fox . . . anyway at all.

The second type of fox hunting is called "Riding to Hounds" and here the sport is the chase, not the kill. Indeed, participants in this sport often find and chase the same fox time and again. A "kill" is the exception, not the rule.

The third class of fox hunter is probably the most common in Pennsylvania. He is the night-hunter, the lover of foxhounds. These fox hunters are organized by state and national associations, hold large field trials and bench shows, maintain foxhound stud books and have a number of national publications, such as *The Red Ranger* and *The Chase.*

The second type, the mounted fox hunt, is the only type recognized by the Masters of Foxhounds Association of America. There are today 112 organized Hunts recognized by the Masters of Foxhounds Association of America, and 20 are in Pennsylvania. In addition, 15 other "unrecognized hunts" are conducted in Pennsylvania.

Miss Evelyn Thompson, of New Geneva, is secretary of the Pennsylvania State Fox Hunters Association. Inquiries regarding any of the hunts should be directed to her.

Ten Pennsylvania clubs are officially recognized as foxhound field trial clubs. These are as follows:

Beaver County Fox Hunters Association, Baden

Greene County Fox Hunters Association, Waynesburg

Fayette County Fox Hunters Association, Upper Middletown

Independence Twp. Farmers and Fox Chasers Assoc., Burgettstown

Lancaster-Chester Fox Hunters Association, Oxford

McKean County Fox Hunters Association, Eldred

Mason-Dixon Fox Hunters Association, Fawn Grove

Perry County Fox Hunters Association, New Bloomfield

Susquehanna County Fox Hunters Association, Montrose

York County Fox Hunters Association, Felton

J. G. McClintock, Turtle Creek, an enthusiastic fox chaser, writes:

"The Pennsylvania fox chasers are very sincere in their sport. They each keep from two to 12 hounds and care for them religiously the year through. The fox chasers destroy neither life nor property. When the fox gets tired after running so long and hard, he goes to his den for safety. This is what the fox chasers want him to do, knowing that after the fox gets a good rest, he will perform in the same way again."

CHAPTER XII

Skeet, Trap and Rifle



Skeet

COMPARED with trap shooting, skeet shooting is still in its infancy.

But it is a very healthy and fast-growing youngster, one that has attracted thousands of enthusiasts in the 25 or so years of its existence.

Skeet is a sport that appeals to anyone who likes to handle a shotgun. Hunters like it because it is wonderful practice for days afield. Nonhunters, the business and professional men, like it just for the sport and relaxation. Women and juniors enjoy it because it is one sport in which they can compete on equal terms with the men. Size and strength are not the important factors. And finally, it is a sport that appeals to older people as something that gets them out-of-doors without demanding exertion beyond their capacities.

Skeet is fired over a semicircular course with a trap at each end. The traps are located in two houses, 40 yards apart. One trap is high and fires its target from a point 10 feet from the ground; the other trap is low with a target leaving the trap three feet from the ground. There are eight shooting positions, called stations, numbered from 1 to 8.

Two shots are fired from each shooting position, making a total of 16 shots. Then four pairs of doubles are fired from Stations 1, 2, 6 and 7, making 24 shots in all. The 25th shot, completing the round, is taken at the time of the first miss. If no misses are made in 24 shots, the 25th shot may then be taken from any position on the field.

Guns are always held in an informal position until the target appears. Targets are subject to a delayed timing of three seconds after "Pull" is called.

Skeet shooters have a national organization with the National Skeet Shooting Association (NSSA) as the fostering association. Headquarters are at 1600 Rhode Island Ave., N. W., Washington 6, D. C.

The official publication for the NSSA is the "Skeet Shooting Review," published in Washington, and containing items of interest to skeet shooters and a list of coming events in the sport.

In Pennsylvania, the state group is the Pennsylvania Skeet Shoot Association. In 1950, the president was C. M. Bowers, 1007 N. Duke St., Lancaster, Pa.

Clubs affiliated with the Pennsylvania Skeet Shoot Association are:

Utilities Trap and Skeet Club
Annville Sportsmen Association
Harrisburg Hunters and Anglers
Tarentum District Sportsmen Inc.
Western Pennsylvania Skeet League
Lancaster County Sportsmen Association
Slatington Skeet and Sporting Association
Wissahickon Field and Stream Association
Sandy Run Hunting and Fishing Association
Huntingdon County Game, Fish and Forestry Association
Wheel Inn Inc.
Fayette Gun Club Inc.
Millvale Sportsmen Club Inc.
Johnstown Rifle Club
Cacoosing Gun Club Inc.
Ebensburg American Legion
Ellendale Rod and Gun Club
Pleasant Hill Gun Club

State championships have been held since 1933, with a three-year lapse from 1942 to 1946. Perfect scores have been recorded by state champions on two occasions: 1942 when F. L. Soisson, Hastings, cracked 100 out of 100; and in 1940 when J. H. Gellatly, Pittsburgh, did the same.

Pennsylvania clubs affiliated with the National Skeet Shooting Association are:

Wissahickon Field and Stream Association, Ambler
Annville Sportsmen's Association, Annville



Northcentral Division officials take time out from business to enjoy some sport on the firing line at the annual field day in St. Mary's. They are, left to right, Ed Brasseur, division president; Ralph Sherwood, Elk county delegate; R. D. Rittenhouse, Elk county league chairman; H. E. DuBroux, division secretary; and A. L. Lenze, president of the St. Mary's club.

Chester Springs Skeet Club, Chester Springs
Ebensburg American Legion Skeet Club, Ebensburg
Harrisburg Hunters and Anglers Association, Harrisburg
Pennsylvania State Skeet Association, Lancaster
Utilities Trap and Skeet Club, Lancaster
Midland Sportsmen's Club, Midland
Delaware County Field and Stream Association, Norwood
Oakmont Country Club, Oakmont
Sandy Run Hunting and Fishing Association, Pittsburgh
Torresdale Country Club, Pittsburgh
West Reserve Fish and Game Protective Association, Sharon
Philadelphia Country Gun Club, West Conshohocken

Trapshooting

Trapshooting is the great-grandfather of skeet. The history of trap shooting extends over a period of more than 150 years. Like skeet, it has a universal appeal, and women and juniors have entered the sport with enthusiasm, often with record-breaking results. Over 100,000 followers are trapshooters today.

No shooting event anywhere can compare with the spectacular Grand American held annually at Vandalia, Ohio. Here, close to 2,000 shooters compete for days in these national trapshooting event. The Grand American has been held annually since 1900, but it was not until 1924 that Vandalia became the permanent home of this great classic. In the dedicating event in 1924, a total of 400,000 targets was trapped in the various events throughout the week's shooting. Vandalia is just outside of Dayton, Ohio.

The national association for trapshooters is the Amateur Trapshooting Association which publishes the

semi-monthly "Sportsmen's Review," a magazine carrying summaries of trapshooting events, past and future, as well as news of interest to trapshooters.

Besides the Grand American, regional championships are held annually throughout the country. One of these, the Middle Atlantic States Championship, is held in Pennsylvania . . . in July with the South End Gun Club, Reading, as host.

Throughout Pennsylvania are innumerable trapshooting leagues, such as the Western Pennsylvania and the All-Sportsmen's leagues in the Pittsburgh area. In addition there are many individual clubs, unaffiliated with larger groups, that enjoy trapshooting on their home grounds . . . just for the pleasure and good fellowship which members derive from the shooting.

Pennsylvania was among the first states to enjoy trapshooting as a sport. Indeed, the first night shoot was held in 1880 at the Orion Gun Club in Philadelphia. Smoke target balls were used in this contest. Another old and exclusive club which has done much to enhance the sport is the Konne Yaut Indians with a state-wide membership.

There are three principal types of trapshooting:

1. 16-yard targets where five shooters stand at firing points 3 yards apart and 16 yards behind a single trap. The trap throws targets from 48 to 52 yards at various angles. A round of trap for each shooter is 25 shots, five from each of five shooting positions.

2. Handicap targets are shot similar to 16-yard targets except that shooters take positions from 16 to 25 yards behind the trap, in accordance with their handicap or known shooting ability.

3. Double Targets are the same as the 16-yard targets except that two targets are released at the same time and two shots are fired at each pair.

In Pennsylvania, the following clubs are affiliated with the Amateur Trapshooting Association:

Bradford Gun Club, Bradford
Bucks County Shooting Association, Chalfont
Clarion Gun Club, Clairton
Marine Ways Gun Club, Dravosburg
Greenville Gun Club, Greenville
Library Sportsmen's Association, Library
Roxborough Gun Club, Philadelphia
Homestead Park Rod and Gun Club, Homestead
Konne Yaut Indians, Conneaut Lake
South End Gun Club, Reading
Valley Gun and Country Club, Shamokin
Quaker City Gun Club, Surf City
Towanda Gun Club, Towanda
Fayette Gun Club, Uniontown
Washington Sportsmen's Association, Washington
West Chester Gun Club, West Chester
Ruffsdale Gun Club, West Newton

Rifle and Pistol Shooting

Scattered in every city and hamlet in Pennsylvania are members of the National Rifle Association, the parent organization for 300,000 American shooters from coast to coast.

The NRA competitive program starts with local unregistered weekly club events. Next are the local registered tournaments fired over standard courses for the weapon involved, for which an official referee is furnished. Next are state and regional championships, culminating with the annual national championship at Camp Perry, Ohio.

The National Rifle Association is supported entirely by individual and club membership fees and by income from its monthly magazine, *The American Rifleman.*

An inquiry to the NRA, 1600 Rhode Island Ave., N. W., Washington 6, D. C., will bring information on club affiliation and operation, instruction, competition, range construction or any other desired information.

CHAPTER XIII

Archery



THE sport of archery has its roots embedded deeply in Pennsylvania history. Indeed, the United Bowmen of Philadelphia, organized in 1828, is the oldest archery club in the United States. With the exception of only a few years, the United Bowmen have conducted competitive matches continually since their inception. Mathias Baldwin, founder of the Baldwin Locomotive Works, was a member of the United Bowmen as were many well-known Philadelphians.

Today, there are 34 organized archery clubs in Pennsylvania. At least 12 of these are field Archery clubs; the others are target clubs. A few are both. Over one-third of these clubs have made archery a year-around sport by arranging inside courses for winter matches.

Although most Pennsylvania clubs are independently organized, there are a number of rod and gun clubs that have made archery a definite part of their general program. Examples of such clubs are the Western Reserve Fish and Game Association, Mercer County; New Hope Sportsmen's Association, Bucks County; Steeltown Gunning Club, Lebanon County; Chambersburg Rod and Gun Club, Franklin County; McKeesport Sportsmen's Club, Allegheny County; Harrisburg Hunters and Anglers and the Middletown Hunters and Anglers, Dauphin County; and the Consolidated Sportsmen of Lycoming County. There are others now in the process of including archery in their club plans.

Most of the organized Pennsylvania clubs are members of the Pennsylvania State Archery Association, Clayton B. Shenk, P. O. Box 1294, Lancaster, secretary. The State association is a member of the National Archery Association, which was organized in 1897 and is the oldest

Pennsylvania State Championship target matches at Penn State.





Field archers at the Al Gigler range near Ambridge. Field archery targets are set up at various distances and are placed so as to offer difficult shooting conditions, much like those found in actual bow hunting.

sporting organization in the United States.

Pennsylvania was host to the National Archery Association championship matches in 1950 at Franklin and Marshall College, Lancaster. This was the 66th annual event and marked the fifth year that the national tournaments were conducted in the Keystone State.

Many individual archers in this state are members of the National Field Archery Association under whose regulations all recognized field matches are conducted. State championships are held the second Saturday and Sunday of October each year.

The Pennsylvania State Archery Association holds its target tournaments for the state championships over Labor Day each year.

Sectional championships are held throughout the state as well as individual club championship matches. Eastern, Central and Western sectional tournaments are held by both field and target archers.

In regulation matches, four persons are assigned to each target. A standard target is 48 inches in diameter, divided into colored circles of five equal distances. The "bullseye" is gold and scores 9 points; the red circle is 7; the blue 5; the black 3; and the white 1.

In target archery, six arrows comprise an "end;" in field archery an end is four arrows. A given number of ends shot at prescribed distances makes up an individual round.

In field archery there are 14 targets at various distances from 20 feet to 80 yards and placed under rough and difficult conditions. The targets themselves, which are miniature pictures of game animals, are from 6 to 24 inches in size.

Archers in tournaments are graded according to their past ability to shoot. Five handicap classes are recognized (from AA to D) and an individual may win in any one of the classes in which he is placed. The number of arrows to be shot and the distance away from the target govern the rules for the various events, such as the York, Single American, Double American, National and Columbia. For those under 16 years, there are junior events.

The Clout shoot is one in which 36 arrows are shot at a target laid out in feet rather than inches. It is placed flat on the ground and men shoot at it from 180 yards; women at 120 or 140 yards; and juniors at 120 yards.

The Flight shoot is a power meet rather than a match of controlled shooting. It is merely competition to see how far each archer can shoot an arrow into the air. The national record for distance is 741 yards. The Pennsylvania record is held by Al Gigler, Ambridge, who shot an arrow 565 yards.

The state record for women is also the all-time record for the United States. It is held by Mrs. F. G. Haines, Warren, whose arrow struck the ground 542 yards from where she shot it.

In a Wiand match, the contestants shoot six arrows at a piece of wood, two inches wide and six feet high, placed endwise in the ground. Men try to hit it at 100 yards; women at 60 yards.

Archery is not and never has been a spectator sport. Like hunting and fishing, it is recreation for the individual. While target and field archery, like trap and skeet shooting for the riflemen, are ideal means of training for better hunting, yet thousands are so engrossed in the archery sport itself that actual hunting is secondary or not a factor at all.

From 1937 until 1949, inclusive, Pennsylvania archers shot 29 deer and one bear. Four of the deer were killed in New York state, one in Wisconsin, making only 24 deer taken by archers in Pennsylvania in 14 years. The bear was shot by L. H. Newell, Sharon, in the Forest County Archery Preserve in 1944.

Some archers try for small game, and some, like Robert Kendig, Lebanon, a Pennsylvania field champion, have been very successful in bagging rabbits, groundhogs and even pheasants and doves.

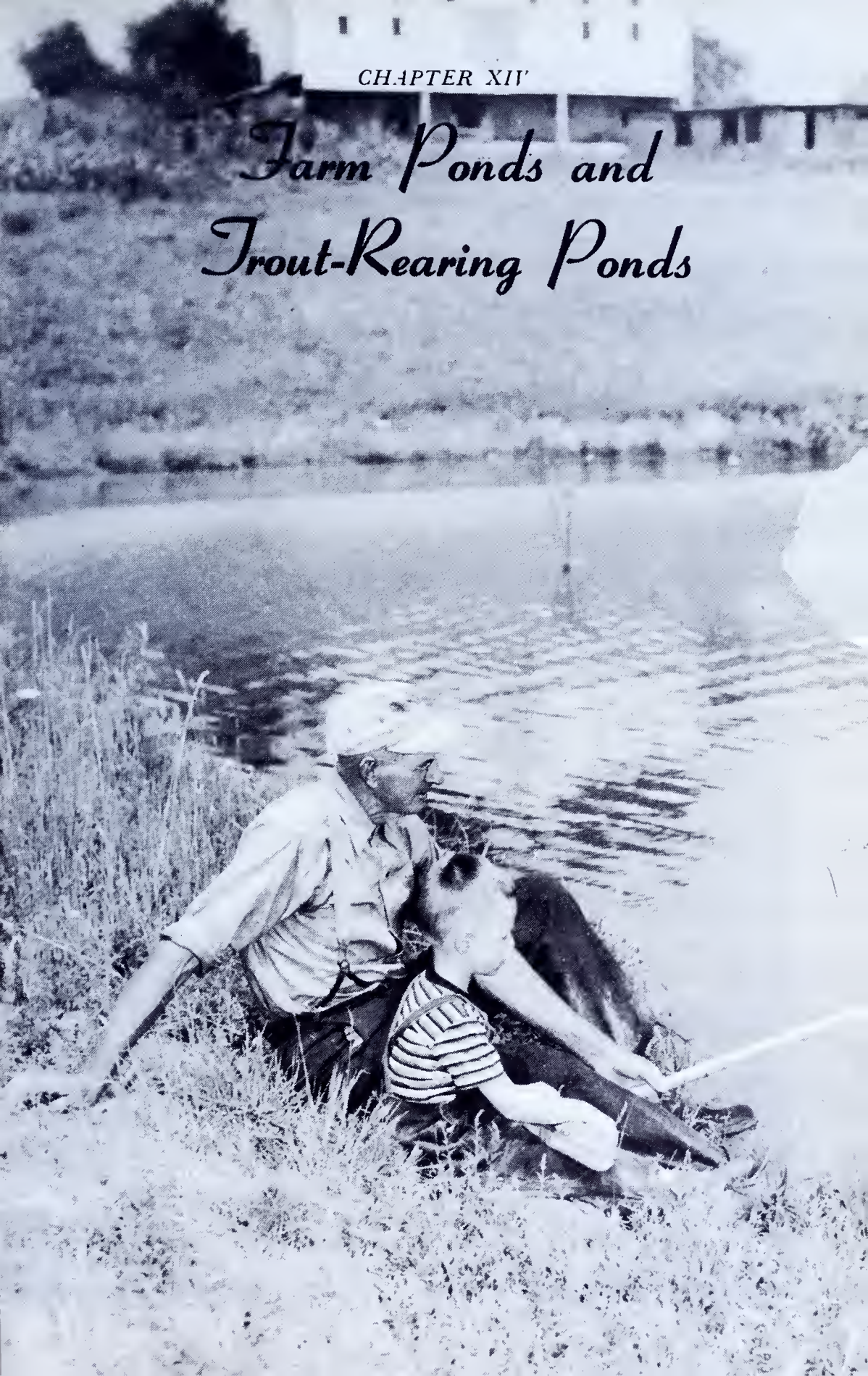
Archery recognizes no age limits among its participants. Fred Drake, Pittsburgh, and Harry Baer, Carlisle, were expert riflemen until they were past 65. When they took up archery, both eventually killed a deer. Baer was 72 when he bagged his.

Some idea of the physical value of target archery can be gained from counting the yardage covered by contestants in the men's York matches. If a contestant walks directly from his shooting point to the target and back again (not counting the retrieving of over-shot arrows), he will walk exactly 4,160 yards. It is likely, however, that an archer will walk over three miles in a York match.

Many archers carry their sport beyond the competition of target and field matches and make it a year around hobby. Innumerable archers manufacture their own arrows in their own workshops, and some of the more skilled, like Les Braaten and Walter Perry, Pittsburgh, and W. L. Mitchell, York, are experts in the construction of bows and arrows. Mitchell, a champion, makes and shoots all his own equipment.

CHAPTER XIV

Farm Ponds and Trout-Rearing Ponds



EVERY sportsmen's club in Pennsylvania that owns its own farm should have on its grounds a fish pond if this is at all possible.

The farm pond idea is sweeping America, and conservation agencies everywhere are encouraging the movement and giving advice and actual help to all who seek it.

Here are a few reasons why a pond on the sportsmen's club farm is desirable:

1. To provide fishing for members
2. For bait and fly-casting practice and for tournaments
3. Fun and practice for juniors learning to fish
4. For boating, if the pond is a large one
5. For ice skating in winter
6. Fishing Contests
7. Fire protection for club buildings
8. To improve the water table
9. To beautify the grounds
10. To attract birds and small game

As an aid to Pennsylvania clubs desiring to build their own ponds, I sought answers to a number of anticipated questions from the Soil Conservation Service in this state. Here they are:

What is the first thing to do? Apply to your Soil Conservation District or your County Farm Agent for help in determining the best location for the pond. This is most important, for a pond will be a complete failure if the wrong location is selected. After the correct spot is determined the agency to which you applied will help draw plans for construction free of charge.

What will a pond cost? This depends entirely upon how much labor and heavy machinery is required to do the job. Generally, however, a pond can be completed for a price somewhere between $200 and $1,000.

How big must the pond be? No less than one-quarter care and up to two acres. A sportsman's club, desiring maximum use for all its members, should try to make its pond not less than one acre; two if possible. The water should never be shallower than three feet. In about one-fifth of the area, it should be six feet or deeper.

Where can the initial stocking of fish be obtained? When the pond is completed, application may be made for federal help. The pond must then be inspected by a representative of the Pennsylvania Fish Commission to determine its adaptability. If approved, then an initial stocking will be received from the Fish and Wildlife Service through a state or federal hatchery. The usual amount is 1,000 bluegills and 100 large-mouthed bass per acre of surface. If the pond has not been fertilized properly with 8-84 at the rate of at least 100 pounds per acre surface, less fish will be stocked.

What yield of fish may be expected? If properly managed and fished hard and regularly, a pond can be made to yield 150 to 450 pounds of pan-size fish per acre annually. Proper management includes protection from muddiness and too much water, keeping the pond free from weeds, grass, brush and debris; proper fertilization; and other precautions explained by the agency helping the club gain maximum use of the pond.

If a club already has a pond which has not received proper management, it is possible sometimes to bring it into production by fertilization and weed control. This is not possible however, if the pond itself is not suitable or does not have the right balance of bass and bluegills.

Some old ponds can be made good by draining and starting all over again. If draining is not possible, the fish can be poisoned and the pond restocked with a balanced population.

Pennsylvania Ponds

The farm pond idea is not new to many Pennsylvania sportsmen's clubs especially some of the larger and better financed clubs throughout



U. S. Fish & Wildlife Service Photo

Farm ponds attract many ducks on their migration flights through Pennsylvania. This pair is dropping in for rest and food on a typical farm pond.

the state.

Some clubs, like the Southern Chester County Sportmen's and Farmers' Association, do not own ponds of their own but are maintaining and helping build others. Members of this club personally own some of the 33 ponds constructed in Chester County, and the club fertilizes the Pennock Memorial Pond in the borough of Kennett Square at a cost of $35.00 a year. The pond, stocked by the club, is used mainly by youngsters. Among future plans of the club is the construction of a four to five acre pond for bass fishing.

Laurel Ridge Sportsmen's Association, Somerset, has completed two dams and have stocked the resulting lakes with fish. These lakes will be open to public fishing in 1951.

Punxsutawney Sportsmen's Club purchased a 100-acre farm, one mile south of the town, and has constructed a one-acre pond. It is stocked with sunfish and black bass.

Conewago Rod and Gun Club, Elizabethtown, is raising bass and bluegills from fingerlings to adults in its pond. These are released in adjoining streams. This club also has permission from Elizabethtown College to use the college lake for the same purpose.

The Souderton Game, Fish and Forestry Association uses its small pond for exhibition purposes only.

Highway-Filled Dams

A project worthy of considerable thought on the part of the Pennsylvania sportsmen is a brain-child of Pennsylvania's "grand old man of conservation," John M. Phillips. It is that of highway-fill dams to create new ponds and lakes. Mr. Phillips writes:

"We have built and are building many roadway railway fills near the

heads of ravines or hollows with culverts at the ground level which allow the water to rush downstream carrying topsoil from the farm. Later this must be dredged from our navigable rivers and lakes or lost in our oceans.

"Let us, in addition to digging ponds and lakes on farms, imitate the beaver by utilizing these fills as dams by raising the entrance to the culvert to form a pond or lake and catch the topsoil from the land above. As the lakes so formed gradually fill with silt, the entrances to the culvert can be increased in height and may eventually cause the formation of large fields of rich topsoil. The fill can be rip-rapped when necessary with field stone or concrete to protect it from disintegration."

Two examples of such highway-fill dams are noteworthy.

The first is at the head of Pymatuning Lake, a half-mile fill, which now carries Highway Route 6 and the railroad crossing the marsh. This was utilized as a dam by building an inexpensive "U" 10 feet high on the upper side of the culvert. This formed a beautiful lake of 2,500 acres, the only waterfowl sanctuary in the state.

Another example is the Babcock Boulevard fill crossing Pine Creek in North Park, just beyond the city limits of Pittsburgh. The entrance to the culvert was raised about 10 feet to form a 72-acre recreation and fishing lake enjoyed by thousands of Allegheny County people.

If the thousands of road and railroad fills spanning ravines or hollows in Pennsylvania could be utilized to create ponds and lakes by such a simple device as raising the upper ends of culverts, it would mean the formation of a tremendous chain of such watered places. No doubt, certain technical questions would arise for highway engineers to study, but

The half-mile fill carrying Highway Route 6 across the head of Pymatuning Lake is an excellent example of how ponds may be created by utilizing a little advance planning in highway construction.

PGC Photo





Trout rearing ponds of the Hi-La Sportsmen's Club in the Allegheny National Forest, Elk County.

the project is worthy of consideration of all sportsmen.

Trout Rearing Ponds

To do their part in propagating trout in public waters, dozens of Pennsylvania sportsmen's clubs have spent thousands of dollars constructing and maintaining trout-rearing ponds. In such a project, the fish are taken as fry or fingerlings, fed in nursery ponds until they reach legal size, and then stocked in public fishing waters.

One of the biggest private operations in the state is that of the Queen City Trout Rearing Committee, which represents three sportsman's clubs and the city of Allentown in operating the former Trexler trout ponds. The cooperating clubs are: Lehigh County Fish and Game Protective Association, Pioneer Fish and Game Protective Association, and the Trout Creek Fish and Game Protective Association.

Anglers of Allentown donated hundreds of hours of time to revamp the former hatchery into the nursery. An initial stocking of 20,000 fingerling trout was received from the Pennsylvania Fish Commission. As these reach adult size, they will be stocked in the Little Lehigh, Jordan Creek, Cedar Creek and Trout Creek, all flowing through the vast parkway system of the city of Allentown.

Kettle Creek Sportsmen's Association, Potter County, maintains three large trout rearing ponds. Each pond is located on a different stream, making it easier to release the fish for the fishermen. Each pond has a capacity of 1,500 adult fish.

Western Clinton Sportsmen's Association has just spent $200 to drill a well as an auxiliary water supply for its trout nursery pond. The association received 10,000 fingerling brown trout from the federal hatchery at Lamar.

Daniel Boone Rod and Gun Club, Berks County, purchased a deep-freeze unit to keep trout food in good shape at its rearing pond on the Dr. Carl Clouser farm, near Oley. This pond is 36 x 21 feet and averages 18 inches deep. Ample spring water keeps the pond well supplied.

Mosquito Creek Sportsmen built two pools and raise 3,000 brook trout each year on the Tom McKinney property at Frenchville; Portage Sportsmen's Association, Portage, has a rearing pond from which they release adult trout in neighboring streams; R. N. Apprich, Reinholds, has donated his trout rearing ponds for use by the Cocalico Sportsmen's Association, of Denver, Pa., and this Lancaster County club raises over 5,000 brown trout from fingerlings each year. Mt. Jay Sportsmen's Association possesses a trout rearing pond; two ponds are maintained by the Conewago Rod and Gun Club at Elizabethtown; and the Berks County Izaak Walton club raises pan fish in its nursery pond.

Westmoreland County Sportsmen's Association is operating its two pools at Rector at capacity . . . 12,000 trout per year. The nursery, which was built in 1926, is operated solely from contributions from interested sportsmen.

The Cooperative Trout Nursery, Hellertown, raising 15,000 trout annually, is operated by the Bethlehem Fish, Game and Forestry Association, Monocacy Field and Stream Association and the Hellertown Sportsmen's Association.

In May each year, the Delaware County Field and Stream Association receives 10,000 fingerling brown trout from the U. S. Fish and Wildlife Service. These are kept in three ponds, and are fed twice daily. In December or January, they are released in open waters in Delaware County.

At a cost of $900, Hi-La Sportsmen's Club, Elk County, constructed two raceways for trout near the Pigs Ear Pump Station of the South Penn Oil Co. Each raceway is 5 x 50 feet and each will accommodate 5,000 trout. Trout fry, all brookies, are received annually from Lamar. When they are 4 to 7 inches, they are stocked in streams in the Allegheny National Forest.

Clubs interested in trout rearing ponds should consult with their local fish wardens before making plans. In this way, the project may be set up on a state-approved basis.



CHAPTER XV

Stream Improvement



STREAM improvement is a project just made for sportsmen's clubs. But it is a project that involves some expense and considerable physical labor; too large a project for a chosen few to handle properly.

It is also a project that requires considerable "know-how." Without this technical knowledge, both time and money can be wasted.

A thorough investigation should precede any actual work or expense. The stream to be improved should be chosen with care. Then, the local fish warden should be consulted, and the soil conservation agent or the county farm agent or both should be asked to participate.

Next, every member of the club should be informed at a meeting that the undertaking, although abundantly worthwhile, will require the financial or physical service of every member. One Michigan club solved that problem by printing booklets of tickets good for 20 man-hours, each 75c. Every member bought a book or worked out his time on the stream. The money contributed by those not able or willing to work paid for supplies; the labor of other members did the job.

Most stream improvement projects center around the construction of new and well-planned pools. All fish are attracted to pools. They need them for shelter and places where food collects. Most game species like quiet places for rest, even if much of their feeding is done in faster water.

Albert S. Hazzard, of the Michigan Department of Conservation, offers four important points to remember in planning the work:

1. Don't make the pools too close together. About an equal area of pool and rifle seems to produce best results.

2. Study the good pools already present. What caused them? Can you duplicate these conditions in a shallow section lacking pools?

3. Pick the sites for new pools carefully. Are the banks high enough to hold the water backed up by a dam or must a deflector be used to scour out a pool instead? If the bottom is hard (bedrock, small boulders or hard clay) the banks on both sides must be three feet or more above the stream level to create a pool. If the bottom will wash and the stream can be turned toward a high bank on one side, a pool can be created there, but be sure that bank is protected by tree roots or plan to protect it by a log boom, rock rip-rap, or sheet piling. If the fall is slight, remember that even a log dam may affect conditions above for some distance and this might change your original plans.

4. Aim for quality, not quantity. A few permanent pools created by solid work produce better fishing and more lasting results that a larger number of poorly-built structures.

It is well to remember, too, that no obstructive dam can be built or the course of any stream changed without permission from the Pennsylvania Department of Forests and Waters. Also, be sure to receive permission from landowners when working on streams that run through private property.

The Pennsylvania Fish Commission, in a pamphlet entitled "Stream Improvement Suggestions," declares:

"Research at the Spring Creek trout farm and stream improvement project and a checkup on state-wide conditions has amply demonstrated two effective methods by which the fisherman may improve his sport. The first is stream improvement, or more accurately, stream farming to make a trout stream yield the maximum number of trout within the area provided.

"This may be accomplished through introduction of devices to put the current to work, thus forming ideal pools for trout, and the introduction of additional cover to provide greater protection for the fish. In brief, it is similar in principal to scientific



Allegheny National Forest Ranger Art Van Nort examines a washed out fish dam on Big Mill Creek in Elk County. This is one of hundreds placed by CCC labor.

crop farming in agriculture, whereby an acre of land is made capable, through proper fertilization and crop rotation, of double its ordinary production. Trout must have food to attain maximum growth in size and number. Stream improvement, through creating ideal conditions for growth of aquatic and insect life, fulfills this need."

The second method cited by the Commission for improving the sport was by the use of artificial lures for trout and other game fish.

Pennsylvania's Work

Stream improvement in Pennsylvania saw its greatest activity during the days of the Civilian Conservation Corps. One of the greatest was the project set up by the U. S. Forest Service in the Allegheny National Forest. Today, many of the devices used for stream improvement still stand. Others are in need of repair. And many more are completely obliterated.

Western Clinton Sportsmen's Association, Renova, has requested each fisherman-member to devote an average of one-quarter hour of each day on the stream in stream improvement. Here are six suggestions offered by the Clinton Sportsmen:

1. Cut a few willow shoots and plant them where banks are bare.
2. Roll in old logs or stumps to provide shelter for fish and breeding places for insects.
3. Build small, loose stone dams to create or deepen pools.
4. Build a wing wall or pier to cause a swirl or eddy.
5. Raise the downstream side of a flat stone and prop it an inch or so off the bottom to provide a hiding place for fish.
6. Bend a tree or sapling so that it hangs over the edge of the stream.

The Mosquito Creek Sportsman's Association at Frenchville, Clearfield

County, conducts an Annual Stream Improvement Day. On that day, late in the summer, not only members of the Mosquito Creek club assist, but sportsmen from everywhere are invited to pitch in and help the club in its work on Mosquito Creek, a tributary of the west branch of the Susquehanna.

The Cocalico Creek Sportsmen's Association, located in Denver, Lancaster County, spends a large percentage of the income from 7000 members in stream improvement. Beginning in 1946, the club, through its active fish committee, began improving and constructing nursery water and dams on the Cocalico Creek. The nursery comprises about one-fourth mile of the stream, which is set aside for the project. In 1950, the club raised about 10,000 brown trout. Of this number, more than 4,000 fingerlings were placed in surrounding streams open to public fishing.

Three dams on Licking Run were built by members of the Great Swamp Fish Game and Forestry Association of Quakertown at no cost to the club. Truck, materials and other equipment were furnished free by townspeople. Club members provided the labor.

Oswago Rod and Gun Club is another that includes stream improvement on its program. One and one-half miles of streams were improved in 1950.

Robert Dickey, secretary of the Mahoning Fish and Game Association, writes: "At present we are working on a project to improve living conditions for the trout in Little Mahoning."

Anti-Pollution

A most important form of stream and lake improvement for the benefit of health as well as recreational endeavors, including fishing, is that of anti-pollution activity. Too much importance cannot be attached to any

Paul Swanson, Venango County sportsman, holds a brown trout and a black bass in one hand and a walleyed pike in the other—just a few of the thousands of fish destroyed by pollution in Big Sandy Creek in Venango County.





On its way to kill fish in Little Scrubgrass Creek is this sulphuric acid water from an abandoned strip mine in southern Venango County.

clean streams program as a means of safeguarding or restoring better fishing.

Pennsylvania sportsmen and conservationists have been in this struggle hand over fist for a long time, and their efforts are paying off. Thanks largely to a friendly administration in Pennsylvania during the past four years (1946-1950), much progress has been made in cleaning up the streams of this state. With the new administration pledged to carry on with enthusiasm the program now well underway, the future for Pennsylvania's polluted streams looks very bright.

Needless to say, however, it is the solemn duty of all sportsmen and other conservationists to guard jealously their rightful heritage of clean streams. The vigil to keep clean streams clean and to clean up those that are not clean must never be relaxed.

On many occasions sportsmen have banded together in associations to fight against pollution. One of these is the Clarion River Valley Restoration Association, which has been instrumental in having a complete survey made of the Clarion River and its tributaries.

Greatest progress, however, has been made by the Schuylkill River Valley Restoration Association, which worked long and hard for the cleaning up the Schuylkill River. One of the leaders in this movement is Judge Grover C. Ladner, of Philadelphia, a past president of the Pennsylvania Federation of Sportsmen's Clubs.

A sportsmen's committee with $9,400 in its treasury was organized early in 1950 to try to clean up pollution in the west branch of the Susquehanna river. Delegates to the Pennsylvania Federation of Sportsmen's Clubs whose counties are touched by this stream met in Harris-

burg to organize. Members of the board represent the following counties: Union, Snyder, Lycoming, Northumberland, Tioga, Clinton, Centre and Clearfield. Money in the treasury is what was left from a fund of $25,000 used in a mine-sealing campaign in the west branch of the Susquehanna.

No finer example exists anywhere of what can be done regarding pollution and erosion than that offered by the Brandywine Valley Association. Organized sportsmen in almost any community might well take a lesson from this group.

While others waited for state and federal agencies to do something about pollution and erosion, the citizens of the Brandywine watershed in Pennsylvania and Delaware decided to do something about it themselves. So successful were they that they produced one of the most amazing examples of non-governmental civic achievement in the country.

Like many others, the Brandywine was a sick stream four year ago. Potentially a thing of beauty and great recreational value, it was laden with silt, sewage and factory waste. Unsightly dumps littered its banks. Unwise farm practices were depleting the topsoil and outdated forestry practices were adding to the annual silt load, which had reached the astounding total of 1,400,000 tons by 1946.

Under the leadership of Edmund DuPont, president, and Clayton M. Hoff, vice-president, the Brandywine Valley Association was formed in 1946 to check such abuses in this 330-square-mile area, which is populated by 179,000 persons. At a meeting of community leaders, a plan of action was drawn, and work of attacking major problems began at once.

There was no coersion. Soil conservation and forestry experts were called in to help farmers reduce the loss of topsoil and the resultant silt load of the stream. Industries and municipalities cooperated wholeheartedly by installing waste disposal plants. Clean-up crews went to work on the stream-wide dumps. Flood damage has been alleviated, new industries have been attracted to the area, and crop production has increased.

Such a project takes imagination, cooperation, salesmanship and hard work, but the accomplishments of the Brandywine Valley Association show what can be done in a short time when leadership is furnished.

Pennsylvania sportsmen's clubs would do well to take a look at their own sick streams and profit by the example of the Brandywine.

Tournament Bait and Fly Casting



WHAT skeet and trap shooting is to the hunter, skish and tournament bait and fly casting is to the angler.

Tournament bait and fly casting is a fascinating pastime for devotees of the rod and reel, affording them an opportunity to use their equipment when the limits of time and space keep them from fishing.

The Pittsburgh Casting Club, with headquarters at Carnegie Lake, Highland Park, Pittsburgh, offers the following reasons why all fishermen should belong to a casting club:

1. Through practice casting at targets, he will acquire accuracy, eliminate backlashes, develop skill in both bait and fly casting that will make his fishing always a real pleasure.

2. He will become proficient in the use of light tackle and lures and obtain more thrills from his fishing.

3. He will learn to discard unduly destructive lures, thereby aiding in the conservation of fish and make his fishing a more enjoyable sport.

4. He will become intimately acquainted with desirable types of rods, reels, lines, leaders, etc., for both bait and fly casting.

5. The cost of belonging to a casting club is nominal, as dues are intended to cover club expense only.

The objects of a casting club should be: To cultivate the art of scientific angling and promote interest and efficiency in tournament or contest bait and fly casting; to aid in the protection and propagation of game fishes and assist in the promotion and maintenance of fishing preserves; to promote an appreciation of and interest in the scientific methods in angling and tournament casting; to encourage the use of sportsman-like lures and to discourage the use of unduly destructive lures and baits; to promote the doctrine of a restricted catch, both in regard to size and number of fish taken and to promote a high standard of true sportsmanship.

In recent years, the game of skish has come into popularity throughout the country. Skish is a competitive casting game played with standard fishing tackle. The game has been standardized on a national scale and has its own rules and regulations. Instructions and rules are free to anyone writing to Clare Bryan, chairman, National Skish Board, Bond Bldg., Washington 5, D. C.

Tournament Casting

The standard target used by all casting clubs is a ring 30 inches outside diameter. This may be aluminum tubing, wood or an old bicycle tire. Five targets are used, and are placed at various distances to conform with the rules. The colors of the five targets should be red, white, blue, yellow and green.

While casting should be done over water to enjoy the sport to its fullest, many anglers, especially skish enthusiasts, have placed their targets on open laws or in gymnasiums.

Bait-casting teams usually are composed of five men in each event with each man making one cast to the target, designated by the judge, and then moving out of the caster's box to make way for the next. This procedure is followed until each person has cast twice at each of the five rings placed in the water at distances of from 40 to 80 feet from the casting platform. Casting for distance requires special equipment and only a few of the larger clubs use it.

The wet and dry fly events, like the bait casting, may be carried out without special fly-casting equipment. The only "must" in these events is a leader at least six feet long. The use of dry fly dope is not permitted and the regulation fly is Size 12, all hackle with the curved part of the hook cut off.

Scoring is easy, but a competent judge should be secured. In both the 3/8 and 5/8 ounce accuracy events, a perfect score is 100. The caster must cast his plug within each of ten 30-



PGC Photo by Luttringer

Tournament bait and fly casting is a fascinating pastime for devotees of rod and reel. This championship tournament held at the Harrisburg Hunters & Anglers farm oustide the capitol city attracted casters from many Middle Atlantic states.

inch rings spaced from 40 to 80 feet from the platform to get a perfect score. A bare miss, ouside the ring and up to 12 inches away, is scored as 1. From 12 to 24 inches or 2 feet is a 2, and so on up to 10 feet away, which is a 10. These demerits are subtracted from 100 to determine the final score.

The dry fly accuracy event is scored differently with various regulations in various clubs. Five targets are spaced at unknown distances from 20 to 50 feet from the platform. A contestant may cast twice at each target, but never the same target twice in succession.

The judge selects the target and the fly-caster starts his false casting. When he thinks his fly should hit the target, he calls "Score." If the fly alights within the designated ring, he is scored perfect. Demerits are given as in bait casting.

If in the process of false casting he snaps off a fly, it costs him three demerits. If he gets a tick (the fly hitting the water before he calls for a score) he forfeits three points, and if the fly fails to float when cast for score, another three points are lost.

Wet fly casting is still different. Five casting rings are placed 35 to 55 feet from the platform and in a straight line. False casting until the first target has been reached, the caster then calls score. From then on, he is allowed no more false casts. Each ring must be cast at twice in succession, and after the second cast at each target, the line is stripped off the reel preparatory to casting at the next target.

Pennsylvania Clubs

Tournament bait and fly casting has its greatest enthusiasts in the Philadelphia area, although clubs are

scattered throughout the state. For example, the Harrisburg Hunters and Anglers Association, during the summer of 1950, dedicated its new clubhouse and platform on Lake Sheesley. The lake is an artificial body of water developed on the club's property outside the city of Harrisburg. With the dedication of Lake Sheesley, the Harrisburg group conducted the First Annual State Fly and Bait Casting Championship N. A. A. C. C. (National Association of Angling and Casting Clubs) registered events.

A new concrete platform, which cost the city of Pittsburgh $10,000, has been erected at Lake Carnegie in the city-owned Highland Park. This is headquarters for the Pittsburgh Casting Club.

One of the most enthusiastic and progressive clubs is the Charleroi group, an affiliate of the Charleroi Sportsmen's Club. The pool used by this club is between Charleroi and Bentleyville on Route 71, a pool of natural beauty surrounded by trees and shrubs. The water is clean and clear and remains at a constant level.

Membership in the Charleroi club has grown from 8 to 60 active casters. At the club championship meet in 1950, over 600 spectators were attracted to the event.

Philadelphia is headquarters for the Middle Atlantic Association of Casting Clubs, an affiliate of the National Association of Angling and Casting Clubs.

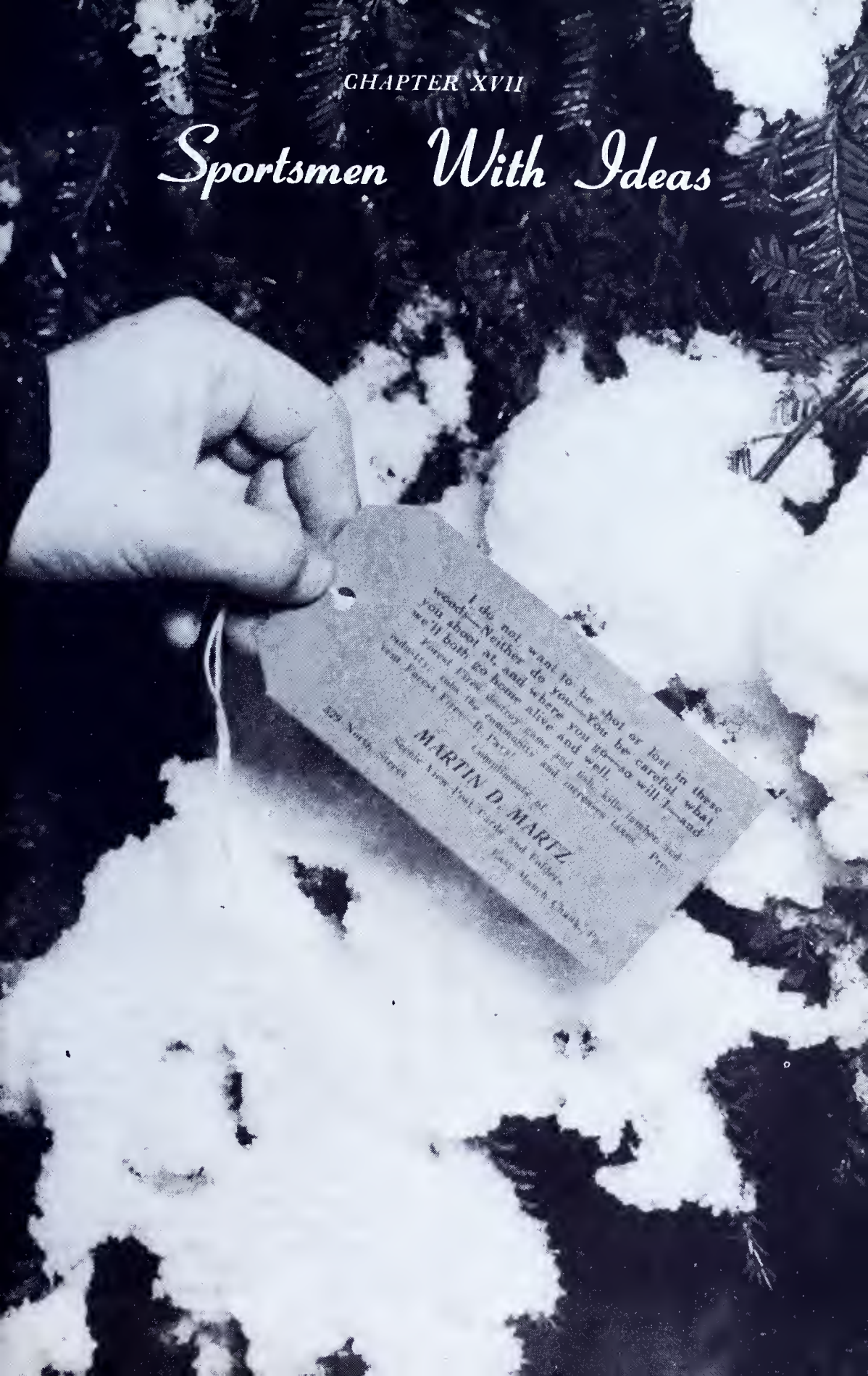
The Philadelphia Casting Club is one of the oldest in the state. Its secretary is Samuel Weitz, whose feat of missing only three targets in 50 in 1945 is still acclaimed as one of castings greatest feats.

Among the Pennsylvania organizations that are affiliated with the Middle Atlantic Association and which hold regular events locally are:

Dover Fishing Club, Philadelphia
Holmesburg Fish and Game Protective Association
Philadelphia Casting Club
Delaware County Fish and Game Protective Association
Lower Merion Rod and Gun Club
Lehigh County Fish and Game Protective Association
Pennsylvania Fish and Game Protective Association, Philadelphia
Bucks County Fish and Game Protective Association
Bristol Fish and Game Protective Association
West End Rod and Gun Club
Harrisburg Hunters and Anglers Association

CHAPTER XVII

Sportsmen With Ideas



PROGRAMS, projects and the many activities of sportsmen's clubs are pretty well stereotyped, generally speaking. Such work as that of food and cover, junior conservation, winter feeding, trout propagation, and similar activities are accepted as the rule. Every club recognizes them as "musts."

However, every now and then a club or an individual sportsman comes along with an idea that shows originality or initiative. It is something that is not routine; something that all other clubs do not know about. These are the things that should inspire others to do more of their own thinking and planning.

Our way of doing things is never perfect; there is always room for improvement. It is with this in mind that the author presents in this chapter a few of the more unusual activities that he has unearthed in searching for information for this book. These are the things that defy classification and are set apart as "Sportsmen With Ideas."

Monuments

In State Game Refuge No. 2, Clearfield County, there stands a monument which reads: "Paul W. McCool, born April 14. 1882, shot by Jerry Hookman by accident, Nov. 2, 1900." On a stone at the base it is inscribed: "Erected by the local hunters of Clearfield."

Fifty years later, on April 1, 1950, another monument was dedicated on Game Lands No. 44, Elk County. It bears this inscription: Harold F. Martin, Pittsburgh, Pa., killed by a careless hunter in Laurel Run section on November 30, 1948. HUNT SAFELY."

This monument was erected by the Elk County Sportsmen's Association, which now has a permanent committee in charge of such work. Similar monuments will be erected whenever or wherever such tragedies strike again in Elk County.

Plaques

On August 20, 1950, the Northwest Division of the Pennsylvania Federation of Sportsmen's Clubs dedicated a bronze plaque at the Pymatuning Museum in Crawford County, honoring Robert Lamberton, vice-president of the Pennsylvania Game Commission. The plaque was inscribed: "For his interest and guidance in the development of the Pymatuning Refuge and Museum.

On April 8, 1949, J. Q. Creveling, former member of the Pennsylvania Game Commission, and one of the fathers of the Game and Fish Laws, was presented with a bronze plaque by the United Sportsmen of Pennsylvania. The plaque will be erected on Game Lands No. 157 in Wyoming County near three lakes previously named in his honor.

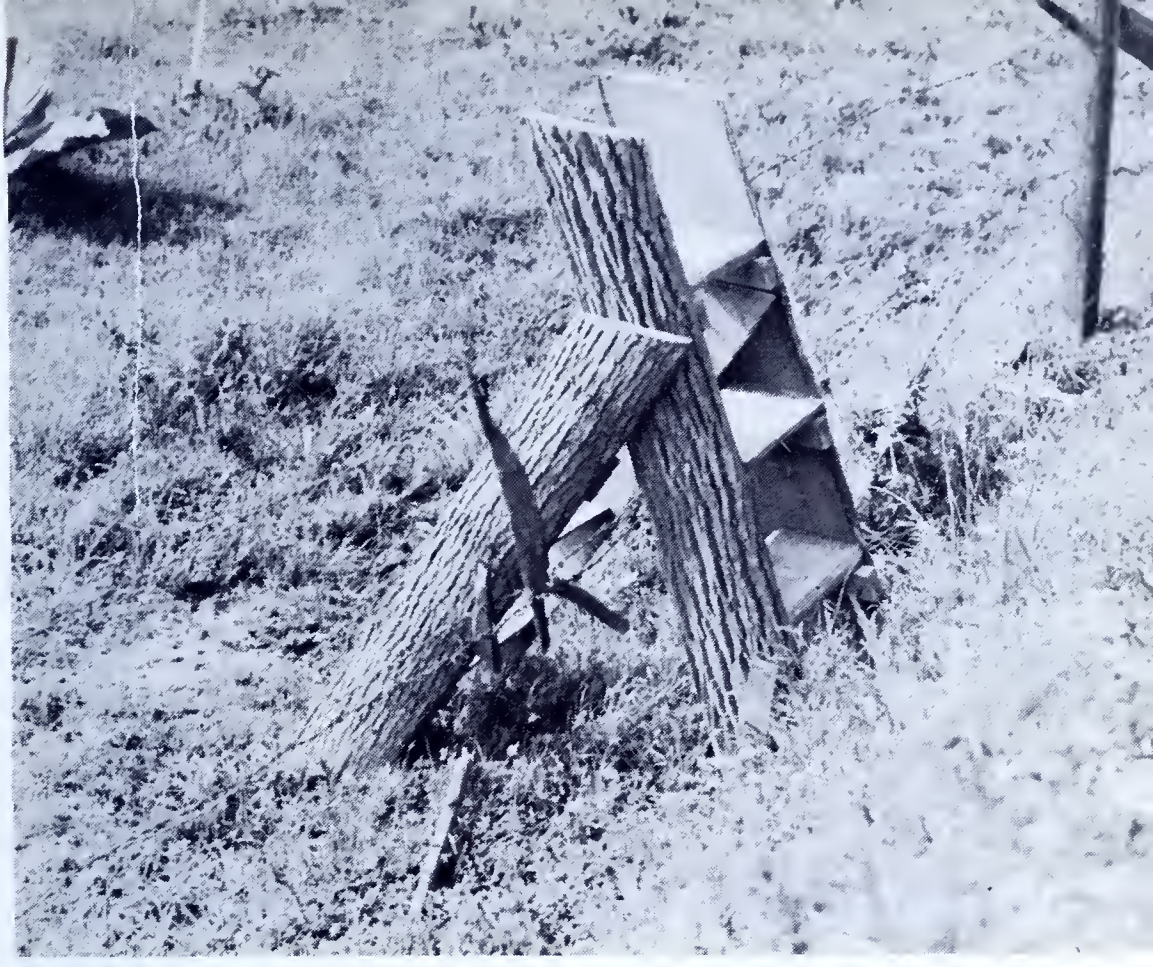
A plaque marking the first purchase of state game lands by the Pennsylvania Game Commission was dedicated in 1948 to John MacFarlane Phillips by sportsmen friends "in recognition of his untiring efforts to develop a state-wide system of public hunting grounds and game refuges." The plaque stands on Game Lands 44, near Glenhazel in Elk County.

Memorial Trees

On Easter Sunday, 1946, the Western Reserve Fish and Game Protective Association, Sharon, conducted a Silver Birch Tree Ceremonial for the 26 members lost in World War II. A tree was planted for each man on the club grounds at Clarkville. The name of each appears on a steel plaque on a post beside each tree. Five thousand persons attended the ceremony.

Conewago Rod and Gun Club, Elizabethtown has planted a memorial tree for each of its war dead at Boy Scout Camp Chiquetan.

Memorial trees for deceased members has been a project of the York County chapter, Izaak Walton League, for a number of years.



Several sportsmen's clubs have realized the value of stiles or walk-over fences, such as this one, in farmer-sportsmen relations.

Stiles For Fences

Several clubs have realized the value of stiles or walk-over fences in farmer-fisherman relationship.

West Chester Fish and Game Association has erected 13 stiles along Valley Creek to protect fences. They cost about $4.00 each, but they prevent complaints from landowners regarding broken fences.

A similar project has been completed by the Mount Nittany Sports Association on Spring Creek. Fence improvement work went along with the erection of 20 stiles or walk-overs. To cooperate further with landowners, the club set a "No-Sunday-Fishing" rule and made the daily trespass hours from 5 a.m. to 9 p.m.

Fences along trout streams in the area covered by the Chambersburg Rod and Gun Club, Inc., were provided with stiles.

Conservation Award

An annual project with the Farmer-Sportsman Club of Berwick is the award of a gold plaque to "The man who did the most in the State for conservation." In 1949, the award was given to Governor Duff. It read:

"Annual Conservation Award, presented to The Honorable James H. Duff, Governor of the Commonwealth of Pennsylvania, who has faithfully defended from waste the natural resources of our state, its forests, waters and its wildlife."

Penitentiary Cooperation

A mutually beneficial project has been worked out between the Montgomery County Federation of Sportsmen's Clubs and officials of the Eastern Penitentiary at Graterford.

As part of its agricultural education program, the Penitentiary raises

750 ring-necked pheasants and also several thousand seedling trees each year for the sportsmen.

The Montgomery County Sportsmen furnish the feed, material and equipment, while the prison furnishes all the labor.

Information Center

During the big game hunting season, members of the Western Clinton Sportsmen's Association set up an information center in Renova. A banner, stretched across the highway, announced the service. Prior to the season, a canvas was made of the western part of the county to list accommodations available. This information, along with road information and the registration of visiting sportsmen comprised the work. Boy Scouts accompanied parties to where accommodations were available.

Sealing Old Mines

A one-year-old club, Allegheny Township Sportsmen's Club, Westmoreland County, has completed a project of closing six abandoned wells and three huge mine shafts in Blackstone Hollow along the Kiski River near Bagdad.

Particularly dangerous were the mine air shafts. Two were 15 feet in diameter and 50 feet deep while the third was 25 feet in diameter and 85 feet deep. The latter was too big to fill in so timber was cut and put across the top. Then a fence was built around it and warning signs erected.

Brush had grown high enough to hide the openings. Two coon dogs had fallen into one shaft where they remained imprisoned for five days before discovered, weak but still alive.

Mounted Birds and Animals

Hellertown Sportsmen's Association was quick to see the educational value of a collection of mounted birds and animals left to the association by Dr. Kern, of Slatington, in his will. The collection is now on display at

At one of their regular meetings, officers of the Wilkinsburg Sportsmen's Club presented a display of hawks and owls secured from Carnegie Museum. These served as an interesting educational feature.



the Hellertown meeting place. It is open to the public at all times.

Special Postmark

Starting in October, 1949, letters mailed from the Warren post office had a distinction shared by no other mail from Pennsylvania post office. Thanks to a cooperative plan, which included a financial contribution from the Warren Field and Stream Club, stamped on every letter mailed in the Warren post office was cancelled with the statement: "Remember . . . only you can PREVENT FOREST FIRES."

The cancellation reminder was part of a campaign carried out by several conservation agencies, including the U. S. Forest Service. The dies are now being used by 82 post offices, but Warren was one of the first in northeastern United States to adopt it.

Association of the Blind

With the help of Jack Carey, past president of the Allegheny County Sportsmen's League, nine men met in Pittsburgh in April, 1948, to form the Allegheny County Sportsmen's Association of the Blind. The nine men who formed this first organization of its kind in Pennsylvania, are all blind. J. Mellor Phillips, 16 East Meyer Street, Pittsburgh, was named first president.

The fundamental purpose of the group is to enlist the companionship of sighted sportsmen in helping members enjoy the out-of-doors, and to serve as a clearing house for blind sportsmen who do not have regular companions to take them afield. It is the hope of this organization that hundreds of blind sportsmen in Pennsylvania may enjoy fishing, boating, swimming, baseball, boxing bouts and even the sociability of hunting camps.

Headquarters for the club is the Pittsburgh Branch of the Pennsylvania Association for the Blind, 308 S. Craig St., Pittsburgh 8, Pa.

"Wheel Chair Paradise"

Through the work of the Spring Mills Fish and Game Association, Potters Mills, a crippled World War II veteran caught his limit of brook trout from his wheel chair in April, 1950.

He was at "Wheel Chair Fisherman's Paradise," and more and more blind and crippled vets are expected to take advantage of this special area in Centre County.

A quarter-mile section of popular Potter Run has been set aside for the vets on land owned by Frank Bullock. Ramps and special streamside facilities are being laid out by the Fish and Game Association and the Potters Mills VFW.

Outdoor Theatre

The York County Chapter of the Izaak Walton League of America believes in keeping abreast of the times. Taking its lead from the new craze for outdoor movies sweeping the country, the York club opened its own "Drive-in-Theatre" at Waltonian Acres, the club farm.

The Ikes constructed a miniature outdoor theatre, including a large size screen and parking facilities. They are featuring hunting and conservation pictures. One program in October devoted to a "Safety in Hunting" theme.

Tags For Safety

Martin D. Martz, East Mauch Chunk, has a novel and effective way of putting in a few licks for the "Hunt Safely" campaign. Sportsman Martz has printed bright red tags, each containing a message. As he goes afield during the hunting or fishing season, or anytime at all, he ties these tags to trees in conspicuous places where others will see them.

Sportsmen finding the tags will read the following:

"I do not want to be shot or lost in these woods. Neither do you. You be careful what you shoot at, and



Elk County Sportsmen's monument to a hunter killed through carelessness.

where you go . . . so will I . . . and we'll both go home alive and well. Forest Fires destroy game and fish, kills lumber and industry, robs the community and increases taxes. Prevent Forest Fires . . . It Pays!"

Discarded Christmas Trees

West Earl Sportsmen's Club issued a bulletin to members:

"Don't Burn Your Discarded Christmas Trees. On Saturday, January 14, 1949, the club will collect these trees and use them to build shelters for rabbits and pheasants in their new game refuge at Center Square. Tell your friends and neighbors who live in Brownstown or Talmadge to save their trees and the club will be around with a truck to collect them."

Millersburg Gun and Conservation Club used 300 Christmas trees one winter in their food and cover program.

Women's Auxiliary

"Never underestimate the power of a woman."

And some sportsmen's clubs don't,

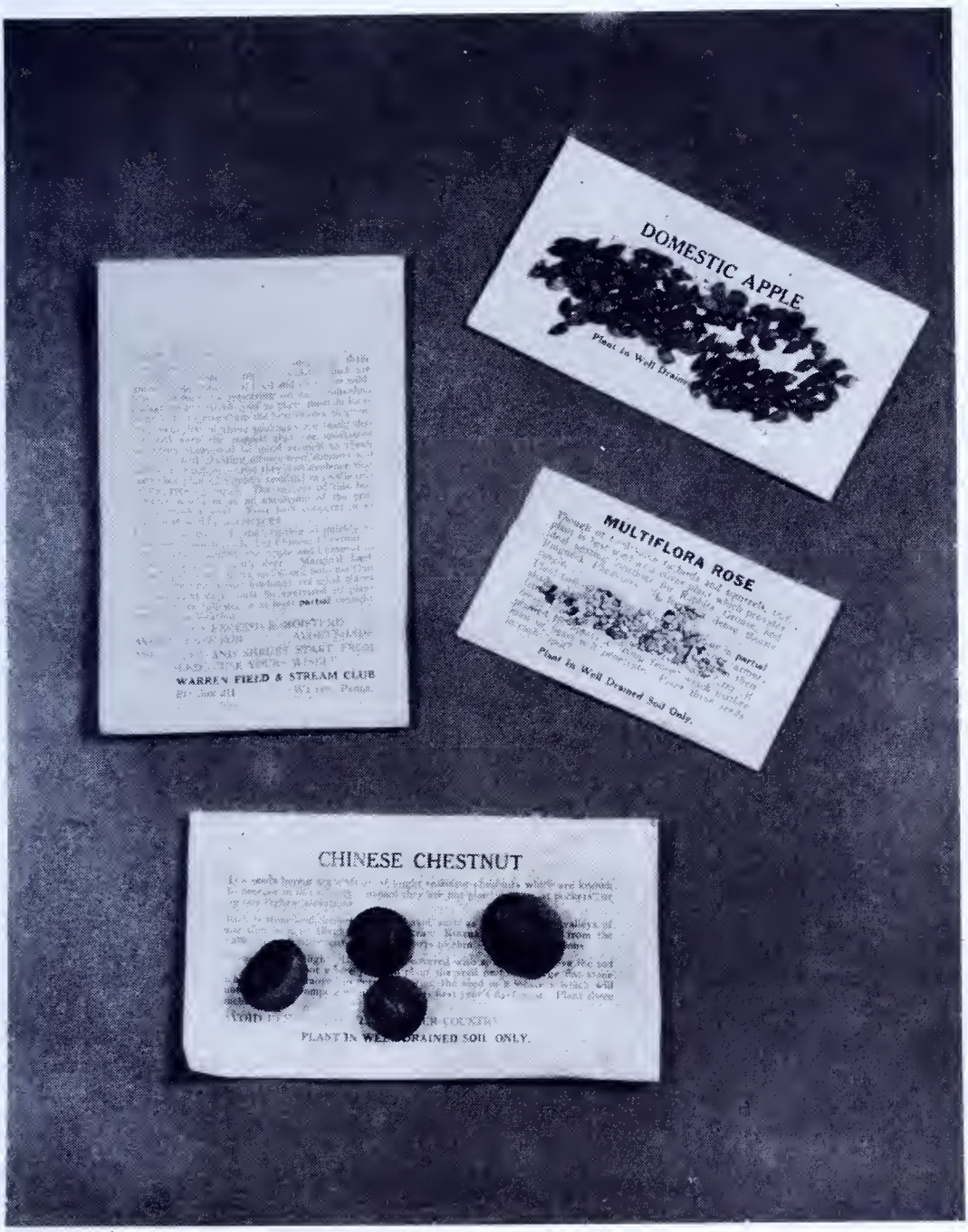
Less than a year old, the Ladies' Auxiliary of the Upper Perkiomen Sportsmen's Association has a membership of 63. The auxiliary has charge of the kitchen at all club activities, and they are asking the men to build an addition to the club building to make room for better kitchen facilities.

Regular meetings are held the first Thursday of the month and the auxiliary's Bingo Party is a monthly event on the third Thursday.

Western Reserve Fish and Game Protective Association, Sharon, is another with an organized auxiliary. It meets the fourth Wednesday of the month.

Collect Deer Hides

Erie County Sportsmen's League in



Packets of seeds distributed by the Warren Field and Stream Club.

1949 turned 300 deer hides into more than that number of birds and bunnies.

The League annually conducts a drive to collect unwanted deer hides which they sell. Money raised is added to the game stocking fund.

Instructions on how to prepare hides for collection and a list of receiving stations in Erie County are furnished members.

Seed Packets

In the fall of 1950, the Warren Field and Stream Club distributed to interested sportsmen 500 packages of seeds for planting. The packages were put up in large envelopes, three packages to an envelope: Multiflora Rose, Chinese Chestnut and Domestic Apple. Each package contained planting instructions.

The following appeared on the big envelope:

"This year 500 of these packages are being distributed with the request that the sportsmen accepting them will be good enough to check back on their planting efforts next summer and advise us whether or not they find evidence that seed they planted actually resulted in production of the tree or shrub. The success of this test seeding would mean an expansion of the program another year."

Novel Application

The Holmesburg Fish and Game Protective Association recently adopted a new and novel membership application blank. The new blanks are folded in three parts. The first section is filled out by the applicant and signed by a sponsor who must be a paid up member of the club. It is then mailed with the fee to the secretary of the membership committe. The second section is a receipt which is returned to the applicant. The third part of the folder explains to the prospective member the club's facilities and outlines the procedure to become a member. The applicant must present himself for an interview by one of the membership committee.

Warning Posters

In an effort to stop dogs from chasing game out of season, members of the Moss Creek Rod and Gun Club, Marsteller, had 150 signs printed, WARNING TO ALL DOG OWNERS. These cited the law and were posted all over town.

According to Joe Gaida, club secretary, the signs worked. Very few dogs were seen in the woods after the signs were posted. Previously, dogs were heard chasing on every hill at night.

Grouse Propogators

While such a project cannot be recommended for general adoption, the grouse propagating project carried on by Bob Hapgood and Tom Mallory on their Orchard Valley Farm, near Bradford, is an example of what sportsmen will do sometimes in an effort to improve their sport.

With special permission of the Pennsylvania Game Commission, these sportsmen have spent several years and thousands of dollars attempting to discover methods of propagating ruffed grouse successfully. Their most encouraging year was 1950 and they are continuing the experiment with enthusiasm.

Miscellaneous Ideas

To remind fishermen that trout streams are closed to all fishing from March 14 to April 15, York County Federation of Sportsmen's Clubs hung thousands of red tags (the same size and shape as those issued for traffic violations) from twigs and branches of trees along York county streams. Each tag contained a printed reminder of the law.

* * *

A clause in the constitution of the Delaware County Field and Stream Association provides for disposition of all property, money and equipment of the club should it ever disband. It all goes to the Boy Scouts of Delaware County.



Tom Mallory, left, and Bob Hapgood, McKean County sportsmen, look over pens on their grouse propagating project near Bradford.



Outstanding in the work of winter feeding wildlife from the air is the Aero Game Feeding Club with headquarters at the Black Moshannon Airport near Phillipsburg. Here George Narehood, club president, and his pilot, Allen Butler, are loading a plane with ear corn to be dropped for wildlife in the mountainous northcentral counties of Pennsylvania.

Tedyuscung Sportsmen's Association, of Philadelphia, conducts an annual auction, selling anything donated by members. Money obtained goes to help finance club projects. The Finance Committee's slogan for the auction is . . . "Your Junk Is Our Gold."

* * *

Tioga County Sportsmen's Association has placed this as one of a seven-point program: "To discourage the practice of advertising Tioga County as a wildlife paradise."

* * *

Many clubs in Pennsylvania have sponsored campaigns to bring the "Conservation Pledge" before the public, especially the schools.

* * *

Bagdad District Sportsmen's Association bought an old school house for a club house. They rent half of it to coal miners' as a union hall, thus bringing the club a steady income.

* * *

York Chapter, Izaak Walton League of America, held a York County Sporting Dog Auction. The event enabled dog enthusiasts to buy or sell rabbit or bird dogs. The Chapter auctioned dogs for those who had them to sell, keeping a percentage of the selling price.

* * *

At one of its club meetings, Hellertown Sportsmen's Association conducted a demonstration of the Identacode System for permanently marking dogs by tatooing. A local dog breeder gave the demonstration.

* * *

Abington Rod and Gun Club, Clarks Summit, features four or five Clam Bakes a year for members and their friends at the club grounds.

* * *

Supplementing the metal signs of the Pennsylvania Game Commission now along highways throughout the state, the Westmoreland County Sportsmen's Association has printed a sign which reads: "STOP! DON'T RUN DOWN GAME." It is printed in large red type.

CHAPTER XVIII

Hobbies for Sportsmen



IT IS only natural to assume that sportsmen who are interested in hunting and fishing are interested primarily in the out-of-doors. Since there are various reasons why they cannot devote all of their spare time to these two sports, most men have other hobbies.

If the reader does not have other hobbies, he is missing a lot of fun. And strange as it may seem to some rabid, dyed-in-the-wool nimrods and anglers, there are many outdoor activities other than hunting and fishing in which thousands of people have the time of their life.

Assuming that the reader is open-minded about the possibility of enjoying himself in some of these pursuits, a few are listed here. Obviously, a complete list of all possibilities cannot be included in a small publication of this kind. Obviously, too, details of the ones that are listed must be kept at a minimum. However, the ideas are here. Perhaps you will like some of them.

Spelunking

Spelunking is a comparatively new American word. It means cave exploring. The science of cave exploring, which is not more than 150 years old in this country, is called speleology. A cave explorer is a speleologist.

But regardless of what you call it, this new sport of exploring caves is packed with thrills and adventure, and those wishing to try it will find two "Grottoes" affiliated with the National Speleological Society right here in Pennsylvania.

The Pittsburgh Grotto may be contacted through its secretary, Robert Dunn, R. D. 2, Shannon Road, Verona; the Philadelphia Grotto may be reached through its secretary, Miss Margaret Loye, 625 Fordham Road, Bala-Cynwyd.

Those taking up this thrilling sport will find plenty to occupy them right at home for there are over 130 known caves in Pennsylvania and more are being discovered right along. Since a book describing 80 caves was published by the Department of Internal Affairs in 1932, at least 50 other caves have been reported.

Practically all Pennsylvania caves are limestone, which accounts for the fact that they are most numerous between Bethlehem and Mercersburg and in the limestone valleys in the central part of the state. However, they occur all over the state. The longest one in Pennsylvania is Dulany Cave on Chestnut Ridge, five miles south of Route 40, where it crosses the ridge near Uniontown. It is 2,000 feet long.

About 10 of the state's caves are commercial ventures. Four are open to visitors at all times (Baker Cavern at Williamson, Franklin County; Crystal Cave, near Kutztown, Berks County; Lost Cave at Hellertown, Northampton County; and Penn's Cave, near Centre Hall, Centre County); and the others are open during the summer or on Sundays or holidays.

Contrary to the fears of the uninitiated, Pennsylvania's limestone caves are comparatively safe from cave-ins and falling roof material. The greatest danger in cave exploring is that of getting lost, and only the foolhardy will attempt to explore a cave alone.

Next summer, while thousands of Pennsylvanians are clogging the highways in search of cool shades and refreshing vistas, try spelunking. The temperature in a cave ranges from 42 to 56 degrees. And you will find adventure aplenty.

Collecting Deer Antlers

A number of Pennsylvania sportsmen tie their hobby pretty close to their hunting interest when they collect the shed antlers of buck deer.

Mr. Dippold, of St. Mary's, who has many bushel baskets filled with prize antlers, has studied his hobby



Harold J. Clement, Carnegie Museum preparator, is a student of Pennsylvania white-tailed deer and collects antler and heads.

to the point where he knows just where to go annually to find the shed antlers of several buck deer whose haunts he knows intimately.

George P. Schlipf, of R. D. 1, Elverson, has an interesting collection of deer heads as well as antlers.

From the scientific or technical standpoint, no one in Pennsylvania knows more about this study than Harold J. Clement, preparator of mammals at Carnegie Museum, Pittsburgh. Regarding the collecting of antlers as a hobby, Mr. Clement states:

"One method of deer hunting may be practiced at any time of year without regard to bag limits. It does not even necessitate a trip into the mountains. Personally, I have bagged two or three stags in an afternoon's hunt through the second hand stores. The charm of such hunting is that occasionally a fine old head may peep out at you from behind a broken sewing machine or ice cream freezer. Sometimes an examination of these castaways will be rewarded by the discovery of some information that dates them and tells where the stag was killed."

In his book, "Pennsylvania's Deer and Their Horns," Colonel Harry W. Shoemaker has recorded many remarkable sets of white-tailed deer antlers taken in Pennsylvania prior to 1900.

Nature Photography

Many sportsmen, particularly hunters, try to combine their hobby of nature photography with their hunting. I have never felt that the two could be done successfully at the same time. I think it is best to hunt enthusiastically when you hunt, but to lay aside the rifle when you take up the camera. And since there is so much in-between time available for photography, why mix the two?



The author, Hal H. Harrison, with camera equipment in a Crawford County marsh.

Another thing, it is pretty hard to lug along the right equipment while you are toting a heavy gun all day. Of course it is fine to have a camera in the car or back at your camp for pictures of game and fish bagged, but the photography of wild creatures alive requires more attention.

From my own years of experience in this field, I have decided that there are three pre-requisites to success in wildlife photography:

1. The right camera equipment.
2. A sound knowledge of the habits of the animals to be photographed.
3. Patience.

Regarding the right camera equipment, no two photographers ever agree. But of this I am sure . . . You will never find one camera that will do everything you want it to do. The more you demand of your pictures, the more equipment you will need.

For my movies, I have the nearest thing to the perfect camera that I know about . . . A Cine-Kodak Special II with regular and long-focal length lenses, equipped with an optical view finder and a reflex image magnifier.

For still pictures, I use a 4 x 5 Speed Graphic or a 3¼ x 4¼ Recomar.

Many of my wildlife pictures are taken by remote control, often from a "blind." As a blind or hide, I use a beach umbrella covered with burlap. For remote control, I use a thread with my movie camera and a wire operated by a battery for my still pictures. Inveritably I use flash with stills. With my movie camera, I sometimes use reflected light.

Wildlife pictures are not easy, and any successful photographer who tells you that they are is kidding you.

Yet, they are tremendously worthwhile. Many a hunter has received deeper satisfaction and a greater thrill out of a magnificent photograph of a deer, which he took himself, than in shooting a dozen bucks in a dozen seasons.

But dead or alive, the job requires skill. And it gets you out of doors when you want to be.

Herpetology

Herpetology is a fancy name for the study of reptiles and amphibians, and more sportsmen than you ever thought about are interested in some phase of this subject. Indeed, I know a group of Western Pennsylvania sportsmen who have become so interested in rattlesnake hunting that they have gone into it from a scientific standpoint. They even check temperatures and wind velocity in an attempt to determine their effects on the movements of these reptiles. What started out to be a sport of hunting and killing rattlesnakes has developed into a fascinating hobby.

A few of these sportsmen whose interest in herpetology has become so involved are: Steve Harwig, Carl Harwig, Elmer Cheuvront, Jim Barton, George Koehler, Wayne Kissell, Game Protector Burt Welsh, Vaughn Miller, Lyle Shafer, Game Protector Bill Carpenter, Art Hadley, Game Protector Norman Erickson and others.

An outdoorsman who prides himself in knowing the things around him will not want to neglect the study of turtles, frogs, salamanders and snakes. Since we have in Pennsylvania only two poisonous snakes and one vicious turtle to reckon with, the hobby is comparatively safe.

Don't collect any reptiles or amphibians alive unless you have a good place to keep them and an adequate constant food supply. It is better

Paul and Dave Swanson are two Venango County sportsmen who enjoy their hobby of herpetology. Here they are collecting salamanders (called "Water dogs" by fishermen) in Big Sandy Creek.



to recognize them and enjoy them in their native haunts.

Indian Relics

Collecting arrowheads and other Indian relics is a hobby that started in the boyhood of a great many Pennsylvania sportsmen. Some have continued their interest into later years by including a study of the history of Indians in this part of the country. As a result, one finds Keystone State sportsmen often well informed on Indianlore.

An outstanding example is the Dutt family in West Chester. The boys, Ted, Lou and Fred, all members of the West Chester Fish and Game Association, have followed their study of Indianlore for many years. The reward has been hours of healthful recreation, a grand knowledge of history and great personal treasure. These boys have been collecting relics of the Redman ever since they were big enough to walk a ploughed field. Their father, Louis W. Dutt, and their uncle, Fred A. Dutt, fostered and encouraged the interest.

The Dutt collection numbers 8,256 darts, including many shad darts and spearheads. Along with thousands of other relics, most of them from the Lenni Lenape tribes of Delaware Indians, this collection is one of the finest in the country.

Another fine collection in the same area is that of Wilmer Lewis, another member of the West Chester club. Much of his work has been done with the Dutt boys.

Fly-Tying

What do fishermen do in the winter?

Well, some of them just wait for April 15 to arrive. Others tie flies. Of the two types of anglers, the latter have more fun.

A list of Pennsylvania sportsmen who are skilled at this work and who

Sportsman George Boone of Pittsburgh enjoys the hobby of tying fish flies.



enjoy the hobby to the fullest would fill several pages of this book. There is hardly a club in the state that does not brag of at least one or more experts in tying flies.

As evidence of the fact that the hobby is ever-growing are the many books that have been published recently just for these specialized anglers. The latest are: "Flies" by J. Edson Leonard (Barnes); and "A Modern Dry-Fly Code" by Vincent C. Marinaro (Putnam); and such old favorites as "Fly Tying" by William Bayard Sturgis (Scribners); "The Fly-Tyers' Handbook" by H. G. Tapply (Durrell); and "How to Tie Flies" by E. C. Gregg (Barnes).

You don't need many tools for fly tying, but you do need plenty of materials. A fly-tyers vise, two or three hackle pliers and a pair of sharp scissors will do the trick as far as equipment is concerned. But the fur, feathers and body materials used for the flies come from all parts of the world.

I asked George Boone, of Pittsburgh, an expert fly-tyer to name for me the flies he considered most popular with Pennsylvania anglers. Here they are: black gnat, royal coachman, light cahill, dark cahill and wet nymph.

Game Protector Sam Weigle, of Mercer, another expert, uses wet flies in home waters due to a lack of natural hatches which would demand the use of dry flies. His favorite trout flies are: Cahill, March brown and black gnat.

The real thrill for the fly-tyer is luring and catching game fish on flies he has tied himself. Economically, there is no advantage in tying flies. It is cheaper to buy them. But real fly tyers looks upon it as a grand winter hobby that keeps them in close touch with happy days gone by with more to come.

Bee Hunting

Here is a hobby and an outdoor sport that has never caught on as it should. I believe it is just because so few people know about it.

Bee hunting is not hard work nor is it expensive. The first essential is a pair of good eyes, for there may be a hive right near your home.

In general, the bee hunter's job is to follow a worker bee from its task of collecting nectar and pollen to its hive in a hollow tree. It is not as easy as it sounds, but here is the popular method:

Bees have a keen sense of smell. Saturate a handkerchief with oil of anise and hang it above the tallest flower in the meadow where you see bees at work. When a bee alights, flick it into a box with a bit of honey at the bottom. Close the box with a glass cover. When the bee settles down it will start to work on the honey. When it has gathered all it can carry, open the glass lid and let it go. The bee will rise, circle and set out for the tree that you want to find.

Follow this bee just as far as you can with your eye and then go to the spot where it disappeared from view. Stop and repeat the handkerchief trick. Follow the next bee as far as you can. Repeat again until the last bee has led you to the bee tree.

If the tree has to be cut down, it is wise to blow a little smoke from a bellows (standard bee-keeper equipment) into the opening. The uninitiated will want to wear gloves and a net veil from this point on. The tree should be cut skillfully for a smashed tree means wasted honey.

Once the tree is felled, the honey can be located by cutting away the trunk with an axe. Scrape the honey lose with a bread knife, collect it on a wooden paddle and carry it away in buckets.

The swarm of bees can then be collected and sold to a beekeeper.

One of the best bee hunters that I know among Pennsylvania sportsmen is Fred Weimer, of Laughlintown.



This is how a group of bird watchers look to the bird in the tree above them.

Bird Watching

While not directly affiliated with sportsmen's club there are, throughout Pennsylvania, quite a few bird clubs and Audubon Societies. They are all open to sportsmen who want to join and further their knowledge of the out-of-doors by studying birds.

It would be a splendid idea if more sportsmen joined Audubon Societies for there exists today a feeling that bird clubs are "against" hunters. In rare cases, that may be true. There are narrow-minded individuals everywhere, not only in bird clubs, who still think that conservation means kill nothing and touch nothing. The more progressive clubs, however, accept the modern concept of conservation as "wise use."

At any rate, bird clubs do offer outdoorsmen splendid opportunities to further their knowledge of the things they find afield. The duck hunter will be amazed to learn that his grocer or his banker or his youngster's school teacher can name ducks quickly and correctly much faster than he can.

The hunter who yells "chicken hawk" at a bird club outing will be corrected, unless by chance (and a slim chance it is) the bird he sees is a Cooper's or a sharp-shinned hawk.

There is too much sneering at Audubon societies by hunters and too much ire wasted by Audubon societies on hunters. Both have their places. They should get together oftener . . . for the good of all concerned.

Raising Earthworms

Here's a hobby that should appeal to a great many fishermen, especially those who do not have a dependable natural supply of earthworms.

North Carolina State Museum of-

fers some advice to those who wish to get started:

First, a suitable enclosure should be provided and located where it will keep cool. The best homes, or earthworm gardens, are built of concrete or a moisture resistent wood, like cypress. They can be painted with hot paraffin on the inside and with tar or pitch on the outside. Creosote is not recommended as its use will injure the worms.

Sink the box (6 x 3 x 1½ feet makes a good unit) in a shady, well-drained cool place with three or four inches of the box edge projecting above the surface of the soil. Now fill the box three-fourths full of a good mixture of dark rich soil and wood mold from hardwood trees. Do not use sand or sandy soil. Keep the soil moist but not wet. It can be kept covered with damp burlap bags, or several thicknesses of wet newspapers. A worm garden of this size should accommodate over 1,000 usable worms.

Stock the box with 50 or more good breeding earthworms secured from the wild or from a dealer. Prepare to feed and care for them from three to six months before you start harvesting the first crop of bait.

Caution must be exercised in feeding worms so as to avoid over-feeding and having the unused food sour and foul the soil. Perhaps a light sprinkle of food every week should be tried at first.

Some recommended foods are: powdered milk or corn meal sprinkled on the surface; finely pulverized, well-decayed hardwood leaf mold; sprinkling of hard-boiled egg yolk; thin water solution of chicken mash poured over the soil; one pound corn meal and one-half pound lard or cooking fat added to soil and mixed well.

Many avid duck hunters spend pleasant winter evenings making their own decoys. Here Bill Douglass and Dick Rhineard Harrisburg waterfowl enthusiasts, are shown in their workshop getting ready for the fall flights along the Susquehanna.





The trick in gathering mushrooms is to know for sure which are edible and which are poisonous. The oyster fungus shown here is perfectly safe and delicious.

Herb Hunters and Botanists

A hobby which at times pays off in real cash is that of gathering herbs for medicinal purposes. Those who engage in this work call themselves "Wildcrafters." They have their own magazine, *The Wildcrafters World,* published in Terre Haute, Indiana.

Pennsylvania herb hunters devote a great deal of their time to hunting ginseng, one of the most valuable of our native herbs. Prices vary, but it sometimes brings $15.00 per pound for roots. Curiously, ginseng has no medical value. Roots are sold to the Chinese, who regard the plant with superstitious reverence. They make it into an aromatic tea which is supposed to be a panacea for all human ills.

Next to ginseng, goldseal is the most valuable of our wild herbs. It has a real medical value and is used in salves to promote healing.

There are over 300 different varieties of herbs that are of commercial value. A few, common in Pennsylvania are: Mayapple, wild geranium, milkweed, wild sarsaparilla, mullein, boneset, sassafras, wintergreen, wild cherry, pokeberry, catnip, peppermint, pennyroyal, etc.

Perhaps in the same department as herb hunters we might include the mushroom pickers. Their hobby gets them out of doors, too, and pays off in many baskets of delicious mushrooms. The trick here, of course, is to know for sure which are the edible ones . . . and also where they can be found. The best rule is "If you are not sure, don't pick it."

And since herbs and mushrooms are both botanical in classification, I should like to remind sportsmen that there are several botanical societies throughout the state that welcome to membership anyone interested in botanical species . . . trees, flowers, shrubs, fungi, algae, molds, etc. One group with which I am well acquainted is the Botanical Society of Western Pennsylvania with headquarters in Carnegie Museum, Pittsburgh.

Slingshot Contests

A sport that seems to be sweeping a great deal of the country but has been missing Pennsylvania is that of slingshot contests (and even slingshot hunting). Slingshot target teams have sprung up in many states and it is only a matter of time, I suppose, until the rage hits the Keystone State. (Or, has it already, and we don't know about it?).

The sport started in California a few years ago when two war vets started making and selling slingshots. Now there is a National Slingshot Association with several thousand members. The secretary is A. K. Melin, 2008 Le Droit Dr., South Pasadena, Calif.

Addenda

The listing of hobbies might go on and on until we would have a complete book of hobbies for sportsmen The ones mentioned have hardly scratched the surface. Following are a few more, and to these you may be able to add others. It all totals up to the fact that there is plenty to do for the sportsman who is looking for recreation other than just hunting and fishing. Here they are:

Making Duck Decoys
Collecting Rocks
Nature Trails
Basket-weaving
Collecting Guns
Making Gun Stocks
Leathercraft
Bird Banding
Falconry
Pigeon Racing
Horseshoes and Quoits
Collecting Insects
Collecting Outdoor Books
Metalcrafts
Woodworking
Collecting Sportsman's Paintings
Herbariums



Addenda

JUST how much ground a publication of this kind should cover is a matter for speculation. As far as we know there is no precedent established; no other book ever published quite like this one. The author has broken new ground here, and at the conclusion he is not satisfied that the subject has been covered as completely as possible.

For example, there is the worthwhile outdoor activity of fire fighting. No place has been made for it in this book, yet, an entire book could be (and has been) written on that subject alone. Many sportsmen make up the ranks of the fire-fighting crews sponsored by the Department of Forests and Waters throughout the state.

Then there is the matter of the recreational value of tax delinquent lands in all counties in the state. This is a project that has had the untiring efforts of one of the state's well-known sportsmen, Dr. R. D. Anthony, of State College.

Dr. Anthony continually has urged sportsmen's clubs to investigate the possibility of utilizing tax delinquent lands as county parks, public hunting and fishing areas, county forests, etc. Complete information may be secured from the State Planning Board of the Department of Commerce in Harrisburg.

The sponsoring of Community Forests recommends itself as being worthy of mention too. Sportsman's clubs could do much to further this project in their own communities. The Department of Forests and Waters has published a booklet which should be helpful . . . "Community Forests in Pennsylvania." The booklet outlines six specific steps to be taken in establishing a Community Forests."

Millions of miles of power and telephone lines, forming a network across Pennsylvania and all America could be developed into excellent wildlife habitat with mutual benefit to game, sportsmen and utility corporations. Here is a big project that could be made a worthwhile part of any club's program.

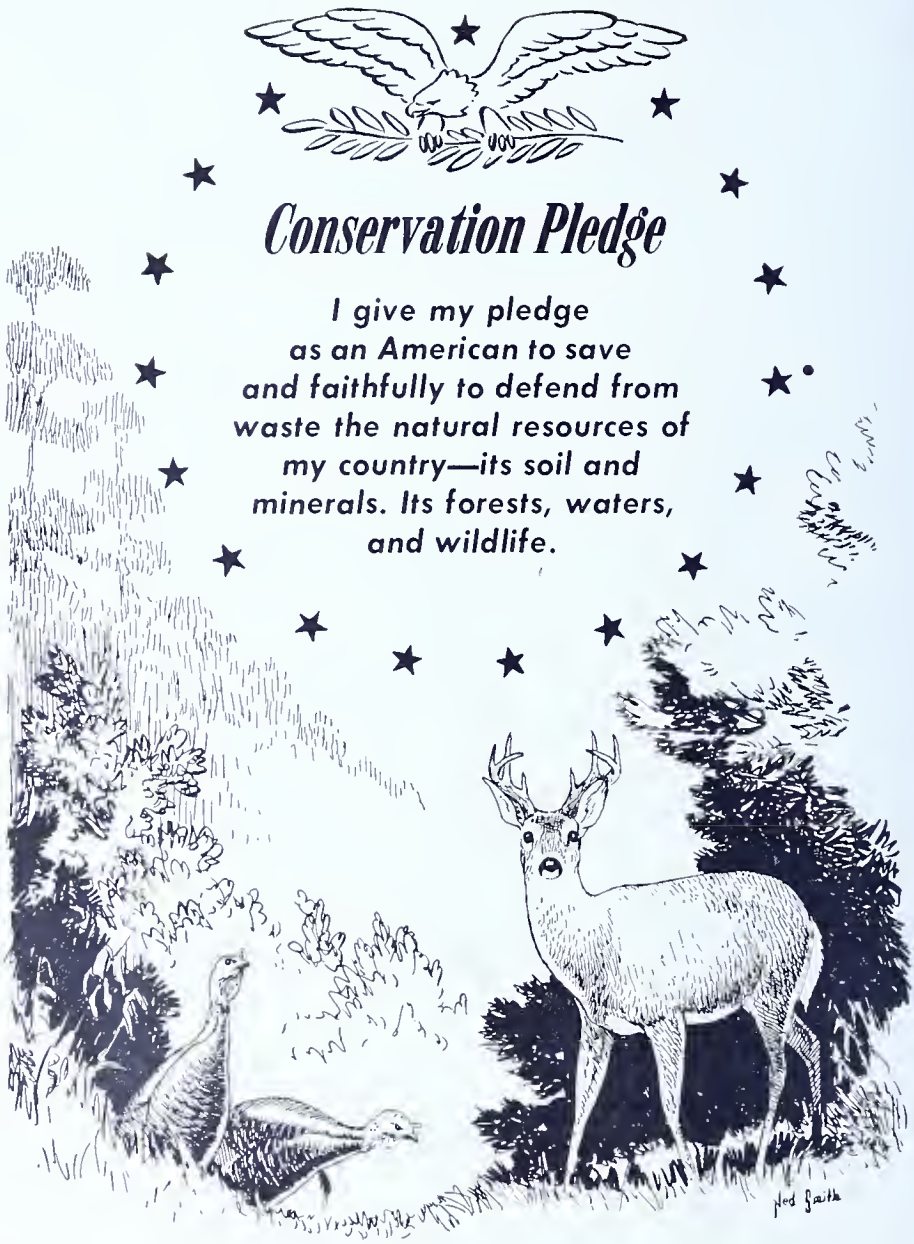
And so the list could be lengthened into an endless chain of suggestions. To carry it to an extreme, some readers might feel that outdoor recreation for sportsmen could even include swimming, baseball, football and track.

But should the reader feel that certain projects related directly or indirectly to wildlife have been ignored or neglected, the Game Commission will welcome comments. If two heads are better than one, perhaps several thousand will prove better than two.

PENNSYLVANIA'S PROMINENT CONSERVATION ORGANIZATIONS

●

AUDUBON SOCIETY OF AMERICA
BOY SCOUTS OF AMERICA
BRANDYWINE VALLEY ASSOCIATION
CAMP AND TRAIL CLUB
CONSERVATION COUNCIL OF PENNSYLVANIA
DELAWARE VALLEY PROTECTIVE ASSOCIATION
FUTURE FARMERS OF AMERICA
4-H CLUBS
FRIENDS OF THE LAND
GARDEN CLUB FEDERATION OF PENNSYLVANIA
GIRL SCOUTS OF AMERICA
HAWK MOUNTAIN SANCTUARY ASSOCIATION
HORSE-SHOE TRAIL CLUB
INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN
IZAAK WALTON LEAGUE OF AMERICA (PENNSYLVANIA DIVISION)
NATIONAL WILDLIFE FEDERATION
PENNSYLVANIA ARCHERY ASSOCIATION
PENNSYLVANIA DEPARTMENT OF AGRICULTURE
PENNSYLVANIA DEPARTMENT OF FORESTS & WATERS
PENNSYLVANIA DEPARTMENT OF MINES
PENNSYLVANIA FARM BUREAU COOPERATIVE ASSOCIATION
PENNSYLVANIA FEDERATION OF SPORTSMEN'S CLUBS
PENNSYLVANIA FEDERATION OF WOMEN'S CLUBS
PENNSYLVANIA FISH COMMISSION
PENNSYLVANIA FORESTRY ASSOCIATION
PENNSYLVANIA GAME COMMISSION
PENNSYLVANIA GRANGE
PENNSYLVANIA LAND CONSERVATION ASSOCIATION
PENNSYLVANIA OUTDOOR WRITERS ASSOCIATION
PENNSYLVANIA PARKS ASSOCIATION
PENNSYLVANIA ROADSIDE COUNCIL
PENNSYLVANIA SANITARY WATER BOARD
PENNSYLVANIA TRAPPERS ASSOCIATION
SCHUYLKILL RIVER VALLEY RESTORATION ASSOCIATION
U. S. SOIL CONSERVATION SERVICE
U. S. FISH & WILDLIFE SERVICE
U. S. FOREST SERVICE



Conservation Pledge

I give my pledge
as an American to save
and faithfully to defend from
waste the natural resources of
my country—its soil and
minerals. Its forests, waters,
and wildlife.

PENNSYLVANIA

Game News

Pennsylvania State Library



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THE STORY BEHIND THE COVER

THE necessity for spring feeding of wildlife is not generally understood. But for Pennsylvania's Game Protectors like Bob Sinsabaugh, of English Center, shown on this month's cover at a turkey feeder on State Game Lands in Lycoming County's Pine Township, April and early spring can represent a time of crisis in wildlife conservation.

April showers falling through the forests this month will often bring warm promises of spring. But even this month sections of Pennsylvania will still be snow-bound and winter will continue to grasp the land with icy fingers. In the mountainous regions the wild turkeys, deer and other denizens of the forest will be found near man-made feeders, as they have been for months depending on human generosity and concern to give them the strength to survive a few weeks more until Nature begins to bring forth her new crop of food. Hundreds of these feeders, each holding many bushels of corn, are scattered in the lonely back country of Penn's Woods where all winter long they have been filled and refilled by Game Protectors and conservation-minded people. In the Commission's Northcentral Division alone, Game Protectors have distributed more than 16,000 tons of corn this winter. These men have labored hard and long to provide food—food that has often maintained the spark of life in the bodies of Nature's creatures.

Now, after the long hard winter, wildlife hangs in the balance, caught between a rapidly diminishing natural food supply and the promise of new growth which in April is only faintly stirring beneath the ground. Now, as much as ever, wildlife needs additional food to carry it through nature's period of greatest scarcity and to give it required energy for the breeding season just ahead. Many can make a contribution to conservation this month by continuing this great feeding program, designed to insure the maximum possible breeding stock of our wild birds and animals—the key to tomorrow's population of wildlife and the satisfaction that you helped make it possible.

FEED OUR WILDLIFE THROUGH THE SPRING PERIOD OF SCARCITY

PENNSYLVANIA
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by the
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Vol. XXII No. 1

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

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Spring Peeper

Karl Maslowski Photo

The Why of Conservation Week

In a world shaken by the possibility that civilization is headed into atomic oblivion, no creed can offer more than conservation. Because it is often an overlooked tenet of the times, conservation must be constantly emphasized.

Pennsylvania Conservation Week, which this year is observed from April 8th to 15th, is designed to lend emphasis to state and private efforts in the restoration, preservation and wise use of our natural resources. But more than this, it is a week proclaimed to carry the message of conservation to all, particularly to those who unknowingly attribute their standard of living to manufacturing skill, marketing methods or chain food stores instead of to the basic richness of our soils, the purity of our waters, preservation and wise use of our forests and the restoration and protection of our wildlife.

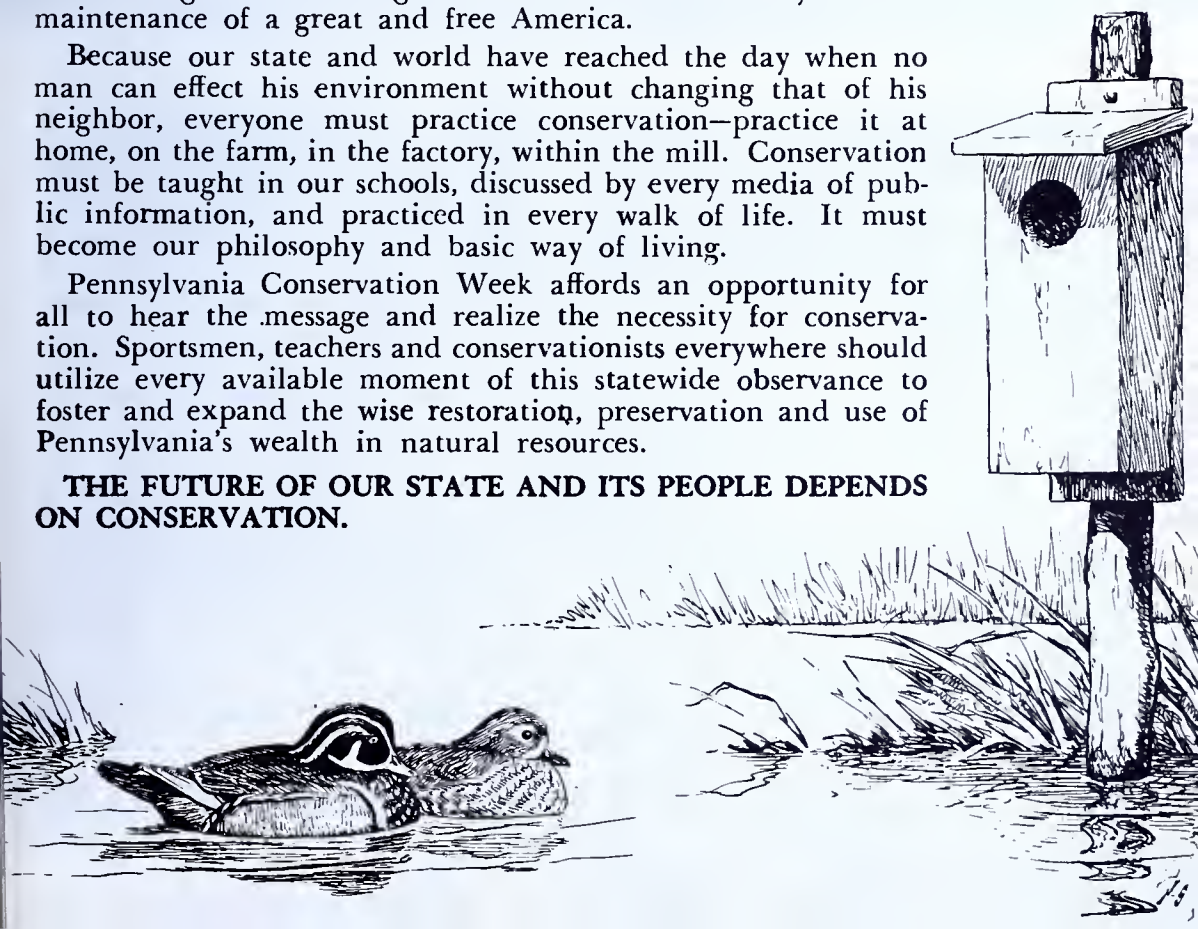


Conservation is everybody's business. Conservation will work when all take an active part in it. The farmer who permits erosion to rob his soil and thereby boosts the cost of his crops, the timber operator who gains a quick dollar by clear cutting a forest thereby losing a source of perpetual income for posterity, the manufacturer who pollutes a stream with industrial waste thereby poisoning a source of drinking water for communities, the outdoorsman who selfishly insists on "lots of deer to shoot at regardless of size or health" and refuses to recognize how an uncontrolled deer herd ruins a game and forest range as well as endangers the future of our State and our people—all these are wasting a rich heritage that is ours to use wisely for the maintenance of a great and free America.

Because our state and world have reached the day when no man can effect his environment without changing that of his neighbor, everyone must practice conservation—practice it at home, on the farm, in the factory, within the mill. Conservation must be taught in our schools, discussed by every media of public information, and practiced in every walk of life. It must become our philosophy and basic way of living.

Pennsylvania Conservation Week affords an opportunity for all to hear the message and realize the necessity for conservation. Sportsmen, teachers and conservationists everywhere should utilize every available moment of this statewide observance to foster and expand the wise restoration, preservation and use of Pennsylvania's wealth in natural resources.

THE FUTURE OF OUR STATE AND ITS PEOPLE DEPENDS ON CONSERVATION.



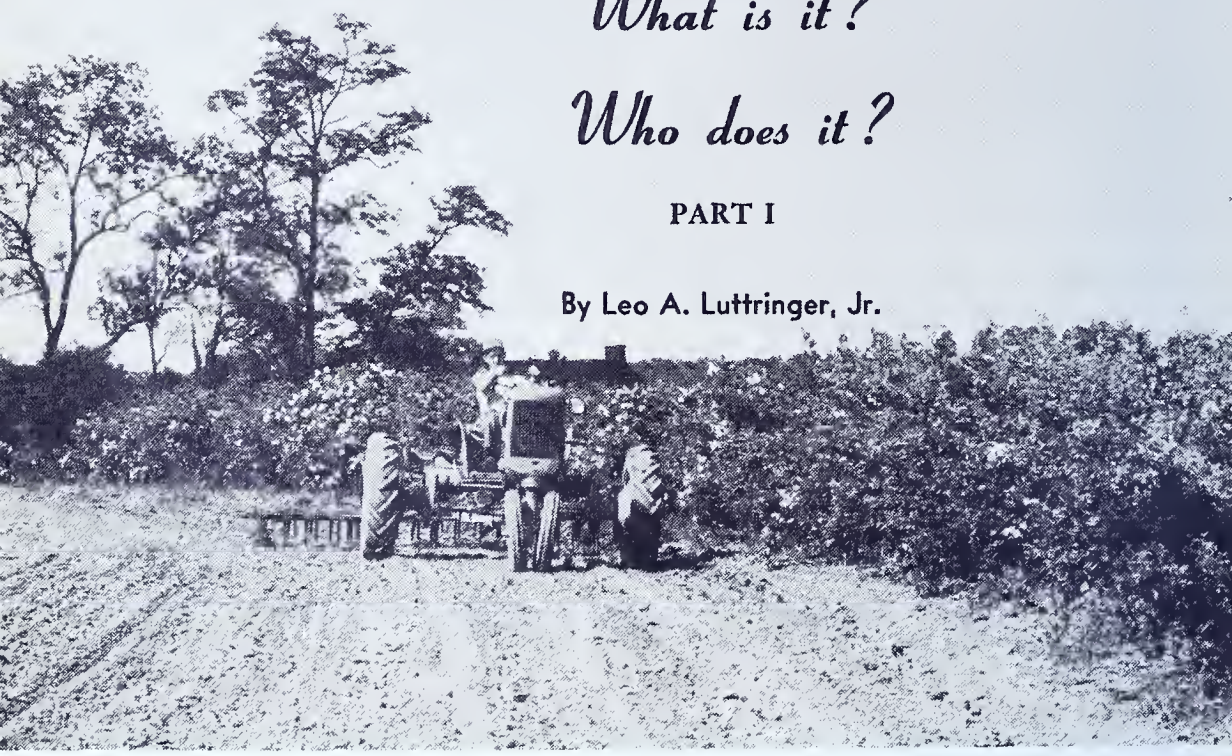
Pennsylvania's Conservation Program

What is it?

Who does it?

PART I

By Leo A. Luttringer, Jr.



U.S.C.S. Photo

MORE has been done to protect and replace the renewable natural resources in Pennsylvania in the past ten years than was done in any previous period in the history of the Commonwealth. This is because more people have learned that one cannot keep withdrawing from the bank of nature without protecting the capital. They have learned that they must be as careful of the soil, water, forests, fish and wildlife as they are about their money, their clothes, their automobile or other possessions in general. They have learned that these resources and their by-products feed them, quench their thirst and cleanse them, shelter and clothe them and provide healthful recreation for them. Therefore, they are going to use them only in proportion to their needs.

Someday, that philosophy will be even more widespread and seriously applied. It will reflect naturally the theme of that once popular song, "Everybody's doin' it, doin' it", but, unlike the song, which eventually dwindled in popularity, it will remain constant and everlasting. When the importance of our natural resources is appreciated by all of our people, then the streams will be purer, the grass greener, the forests greater, the soil richer, farms more fruitful, fish and wildlife more abundant, the world more beautiful, the people in it brighter, healthier, stronger and more cheerful. Many groups and individuals are endeavoring to arouse and cultivate this interest in our citizens.

Pennsylvania Federation of Sportsmen's Clubs

There are many agencies and organizations which individually and

collectively are helping to further conservation. For example, the Pennsylvania Federation of Sportsmen's Clubs numbering 944 clubs and more than 201,000 members is not just interested in harvesting the surplus game or fish crop annually for its own pleasure. It is equally interested in preserving and perpetuating our natural heritages for future generations. It has a broad program of which conservation education is a major phase. It sponsors a Junior Conservation Camp for boys at State College four weeks every summer, the expenses of which are paid by the individual clubs which foster one youthful candidate.

It maintains an active legislative committee and acts in an advisory capacity to the several state conservation agencies. Individual clubs carry on many conservation projects locally, spending thousands of dollars to restock fish and wildlife and to plant trees. *The Federation News* for August, 1949, announced that 136 clubs in 35 counties spent nearly $59,000 to restock rabbits, pheasants, wild turkeys and quail last year. Hundreds of thousands of dollars have been invested in club properties where provisions are provided for target shooting of all kinds, archery, bait and flycasting, etc. Many clubs have established ponds and are planting food and cover for wildlife—even farming according to modern methods where they own large tillable areas.

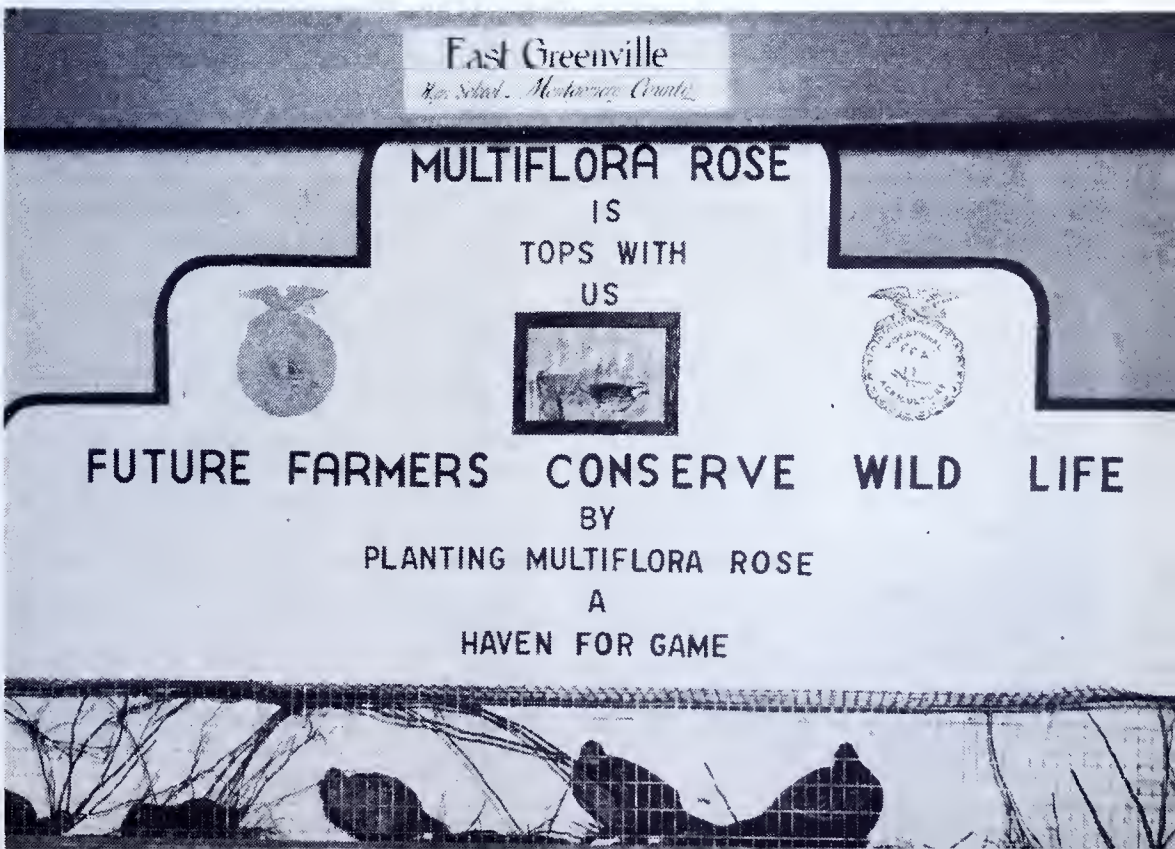
Many sportsmen's organizations sponsor Junior Clubs and eventually a printed guide for such groups will be published in the hope of making the Junior program more widespread.

Izaak Walton League

Another powerful sportsmen's group which has done and is still doing much for conservation in Penn-

PGC Photo by Batcheler

The Pennsylvania Department of Public Instruction, through its Division of Agricultural Education, encourages the teaching of conservation to farm youth. This striking exhibit was prepared and designed by East Greenville High School students for display at the State Farm Show in Harrisburg during January.



sylvania is the State Chapter of the Izaak Walton League. This organization adopted a resolution in a convention at Harrisburg in 1945, to which it invited the representatives of some 22 conservation organizations, which resulted in binding those groups together in what is now known as the Pennsylvania Conservation Committee. It took part in the battle which eventually resulted in a Pure Streams Act with teeth and has constantly wielded an influence out of proportion to its size. It is a modest organization and the record of its many accomplishments lives mostly in the hearts and memories of its active members.

Trappers and Archers

The State Trapper Association, through its sincere interest in the preservation, as well as the control of predators, is doing much for conservation. The State Archery Association though few in members is made up of many good sportsmen who are interested in conservation measures, but it has no program of its own at present.

Agricultural Organizations

The Pennsylvania Soil Conservation Commission, the U. S. Soil Conservation Service, the Pennsylvania Farmer, The Grange, the Pennsylvania Farm Bureau, and the Agricultural Extension Service at State College are trying to prevent our topsoil from washing down the river. All have literature or visual aids on good soil conservation and modern agricultural practices which should be in every library.

Friends of the Land have been very active in Pennsylvania and has held several successful conferences with excellent educational programs in Pittsburgh, Philadelphia, Harrisburg and other cities. It contributes to the over-all educational cause of conservation and deserves wholesome cooperation and hearty applause.

The Extension Division of the Pennsylvania State College is doing a splendid job of coordinating the conservation efforts of state conservation agencies and sportsmen's organizations. It conducts the Junior Conservation Laboratory for Teachers at the college.

Forests and Waters

The Department of Forests and Waters is doing everything possible to conserve our State Forests which will help to insure our water supply, and to improve the facilities of our State Park System. It has many descriptive folders about the several State Parks which give their location, tell you what fishing waters are nearby, how to go about renting cabins on the areas, etc. If you want to lease a camp site on State Forests contact this department not the Game Commission. The Game Lands are reserved wholly for wildlife.

This deparment has many interesting bulletins about trees and shrubs and the by-products of timber, and publishes a fine magazine. It maintains several excellent educational exhibits on the multiple use of forest products and on the prevention of water pollution.

In cooperation with the Pennsylvania Department of Public Instruction, courses in Forest Management are presented to Vocational Agricultural students in the state.

Game Commission

If there is anything you want to know about wildlife; the laws protecting it; how it is managed; what to plant for it; how to control its enemies; how to trap; where game lands, game farms, archery preserves and cooperative shooting grounds are located; which birds and animals are protected and which are not; how many big game, small game and furbearing animals there are; how many songbirds occur and how to build houses for them, ask the Game Commission. It will furnish you upon request with a list of literature and



PGC Photo by Batcheler

The Pennsylvania Game Commission Exhibit at the Philadelphia Motor Boat and Sportsmen's Show in March.

motion pictures to cover any wildlife subject in which you are interested.

It has a decentralized educational service through which trained men in each of its six divisions are available to lecture and show color motion pictures and slides on the work of the Commission and on wild bird and animal protection to all interested groups. Especially does it direct its efforts toward the schools and the youth groups of the state because it realizes that through them the future of conservation can be properly moulded.

The Commission provides cash subsides for worthy conservation undertakings such as the Conservation Education Laboratory at State College of which it was a founder; the Forensic League of the University of Pittsburgh which conducts oratory, poster and essay and photographic contests on conservation annually in hundreds of high schools; the Academy of Natural Sciences, Philadelphia; and the Carnegie Museum, Pittsburgh. It also maintains a conservation education exhibit at Hershey Park, exhibits major wildlife displays at the State Farm Show, the Philadelphia Motor Boat and Sportsmen's Show, and the Allegheny Free Fair; and provides instructors for the Federation's Boys Camp at State College.

The U. S. Fish and Wildlife Service, Washington, D. C., also contributes to the Pennsylvania wildlife conservation program through a cooperative undertaking with the Game Commission and the Pennsylvania State College. Under it many research projects concerning wildlife, its habits, food and range are conducted. The College maintains a four-year course in wildlife management which attracts many future specialists in this new and challenging field.

No agency is doing more to invite our people to take advantage of our many natural gifts than the State Department of Commerce. Through its wide publicity and its beautiful publications it has shown our citizens the wonders which are awaiting them outdoors in the Keystone State.

Fish Commission

The Pennsylvania Fish Commission can tell you anything you want to know about fishing and fish laws; where to fish in the Commonwealth for any kind of fish, how to fish, and even how to cook your fish after—or if—you catch them. There are ten fish hatcheries throughout the Commonwealth which are educational to visit on that Saturday-Sunday-Holiday drive and the Commission will tell you where they are if you are interested. It operates the world's only Fisherman's Paradise. near Bellefonte, Centre County, where Mom, Pop and the kids can go to learn how to fish in water and amidst a background of Pennsylvania landscape which cannot be duplicated anywhere. The Fish Commission also publishes a splendid monthly magazine titled "The Angler" as well as many other fine bulletins and pamphlets.

Public Instruction

The Department of Public Instruction is doing a marvelous job in integrating conservation by presenting it in its several courses of study and in a hundred different ways our natural resources are being emphasized in one way or another so that they form a part of community understanding and development. The Division of Agricultural Education of that Department has made soil, wildlife and forest conservation an integral part of the courses taught in the Vocational Agriculture Departments of the High Schools.

The Pennsylvania Fish Commission operates the world's only Fisherman's Paradise near Bellefonte, Centre County.



Two foresters from the State Department of Forests and Waters have been assigned to work with high school vocational agricultural classes and with the veteran training classes in agriculture.

Each boy in the State vocational agricultural courses is permitted to set up a conservation project in lieu of or in addition to his regular vocational agriculture supervised farming project. A contest is established each year for the conservation projects. The five highest are given gold medals, the next five are given silver medals and the next five are given bronze medals. The boy judged as first is awarded one hundred dollars as a prize furnished from the funds of the National Future Farmers of America Foundation.

In seven central Pennsylvania counties there is a movement in reforestation which will probably spread to other areas of the State. The veterans of the various veteran training classes in agriculture in those counties, through the encouragement of the county supervisors of the vocational agriculture have agreed to plant a thousand seedlings each year per person per year for the next ten years.

Soil Conservation Commission

The Pennsylvania Soil Conservation Commission does not carry on a formal program of conservation education, but the function of this agency is so important in relation to the topic that mention should be made in this report.

By Pennsylvania State Law the Commission encourages the establishment of County-wide Soil Conservation Districts through action by Boards of County Commissioners. Twenty-five of the sixty-seven counties in Pennsylvania have now set up soil conservation programs. When such programs are approved, it is the function of the State Commission to make available the services of the various cooperating agencies under agreements arranged with each at the county level. These cooperating agencies are: The United States Soil Conservation Service, The Pennsylvania Fish Commission, The Pennsylvania Game Commission, The Pennsylvania Department of Forests and Waters, and the Pennsylvania Department of Highways. Cooperation in soil surveys and research is given by the Agricultural Experiment Station at The Pennsylvania State College

Examples of Collaboration Between Higher Education and the Public Schools

On March 18, 1949, a committee of the Pennsylvania Board of Presidents of State Teachers Colleges recommended that: "The public interest in conservation education and the demand on the part of teachers and school officials for suitable preparation in this field have induced your committee to make the following recommendations:

"1. That the Board of Teachers College Presidents authorize an area of specialization in conservation education in the secondary curriculum, and

"2. That a first field in conservation education totaling twenty-four (24) semester hours, and a second field totaling eighteen (18) semester hours be approved."

The motion was referred for further study.

Programs That Involve Widespread Community Participation

The elementary Course of Study, Bulletin 233-B, for Pennsylvania Schools, 1949, was built cooperatively by teachers and lay groups who were asked to study the elementary curriculum and submit reports. Many reports were submitted on conservation and were included in the bulletin. The advisory committee on con-

servation was made up of lay persons who represented conservation organizations in the State. The bulletin provides for an abundance of conservation learnings in all areas of the curriculum.

Sanitary Water Board

The Health Department is our water-conserving agency through its Sanitary Water Board. If you want to know which streams are pure and which are not, it can tell you. Many people are subsconsiously practicing conservation though they don't realize it. Take yourself, for instance. You're interested in whether your drinking water is pure or not, aren't you? So, you are interested in conservation.

Too many people with children have learned through tragic experience that polio bacteria thrive in polluted streams. Which should also remind us that we must conserve our *human* resources as well as our natural resources.

Pennsylvania Conservation Committee

One major non-government committee, Statewide in character helps to guide the destiny of and mould public sentiment in behalf of conservation. Particularly does it keep a watchful eye on legislation, and ferrets out, and usually helps to defeat, any that would destroy the splendid work already accomplished. This Committee, known as the Pennsylvania Conservation Committee, is composed of the following organizations:

The Conservation Council of Pennsylvania, formerly the Council for Preservation of Natural Beauty in Pennsylvania has through the years worked hand in hand with the Garden Clubs and Women's Clubs. It, together with the Izaak Walton League, had the honor of calling the first meeting of representatives from the numerous groups to consider coordination of efforts to pass conservation legislation. It has thrown its weight into the passage of good sound conservation legislation both state and national and receives, peruses and channels to its many affiliated clubs and organizations reports on every single bit of important conservation endeavor, legislative or otherwise, that is going on anywhere in the country.

Among twenty trees planted on Arbor Day, April 8, 1950, thirteen, donated as memorials in honor of outstanding persons, were dedicated in Penn's Woods Memorial Reforestation area of Washington Crossing Park, Bucks County, one of the historical parks operated by the Department of Forests and Waters.

One of these, a scion of the original Penn Treaty Elm, was donated in honor of Governor James H. Duff in recognition of his program of reforestation and streams purification, so well carried forward during his administration. Another tree, a Red Pine, had been planted in honor of Judge Grover C. Ladner, Chairman of the Statewide Conservation Committee, and President of the Schuylkill River Valley Restoration Association, in recognition of his indefatigable labor for many years to achieve the purification of the Schuylkill River. Judge Ladner was one of the original organizers of the Pennsylvania Federation of Sportsmen's Clubs in 1931 or 1932, was its first president, serving nine years, and is now its honorary president.

Penn's Woods is in no way an arboretum. All trees and shrubs planted are species indigenous to the State of Pennsylvania.

A Tree Seed Gathering Project, under the guidance of District Foresters, has been adopted by several Scout Troops. It also trains volunteer guides for work at the Preserve.

The Council encouraged Mark Trail in his conservation contribution in the Funny Sheets of many newspapers through which he reaches thousands of people with his clever drawings with manwise lessons. It



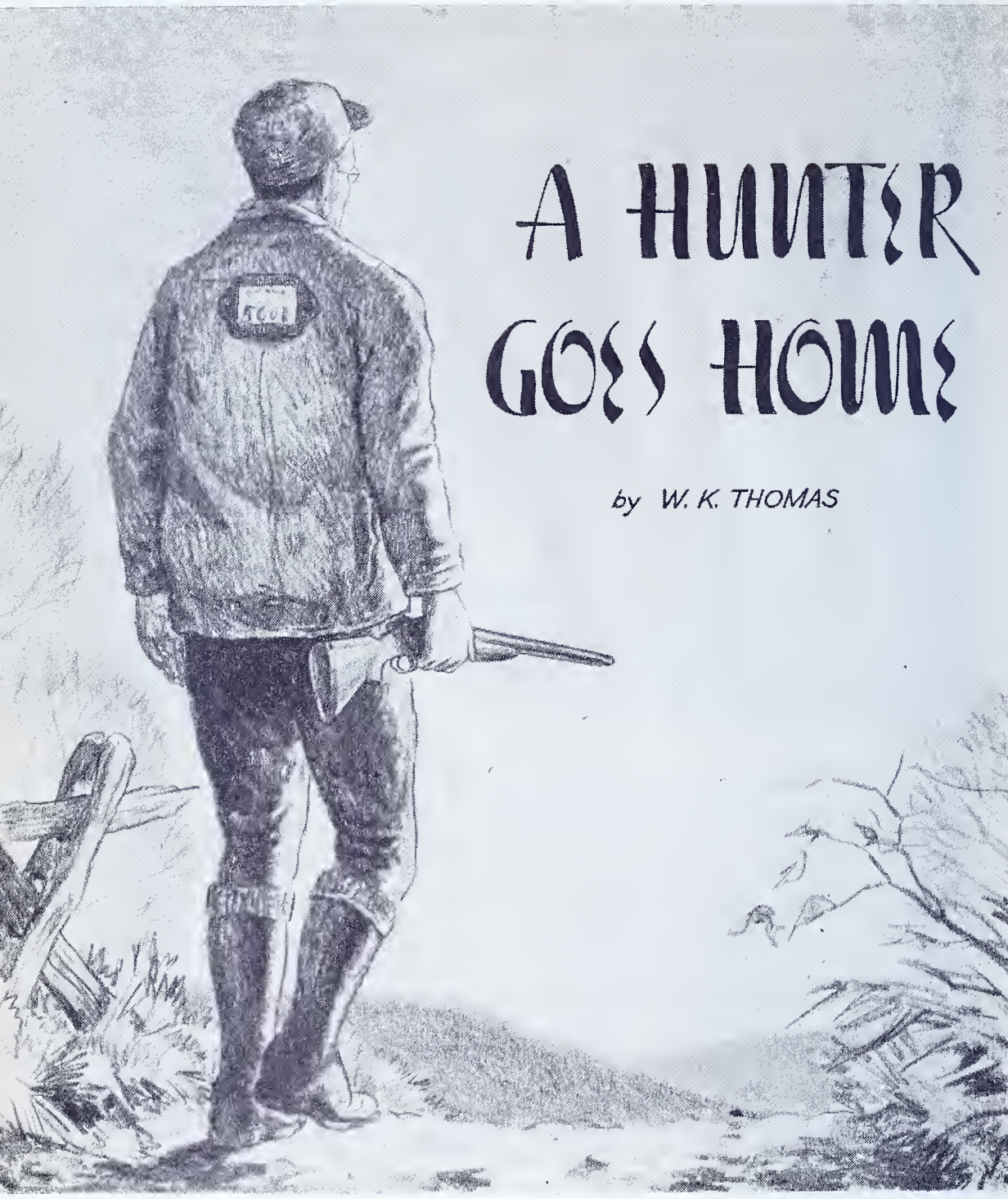
The Conservation Council of Pennsylvania dedicated memorial trees to outstanding conservationists, including Supreme Court Judge Grover C. Ladner, of Philadelphia, and former governor James H. Duff in Penn's Woods Memorial Reforestation area of Washington Crossing Park in April, 1950. Shown here are Judge Ladner and Mrs. C. C. Zantzinger, chairman of the Penn's Woods Committee, prior to the dedication ceremonies.

aids the Academy of Natural Sciences, Philadelphia, to enroll more children in its Junior membership. These youngsters are given many lectures and field trips of a highly educational character. It sponsors the horticultural development of the Bowman's Hill Wild Flower Preserve where nature trails give access to the planting of wild flowers, trees and shrubs. Its Blue Bell Trail has provided homes for many birds and is used as an example of the vital part birds play in agriculture. To make this whole program more educational and attractive, the Washington Crossing Park Commission publishes a catalog of plants of the Bowman's Hill Preserve. . . . *To Be Continued*

WILD GAME POSSESSION LIMIT

In these deep-freeze days many hunters retain the flesh of wild birds and animals much longer than they formerly did.

Wild game may be possessed for 60 days after the end of the season in which it was taken. Any person who wishes to retain game longer is required to obtain a $1.00 permit from a field division supervisor or district game protector. Such a permit authorizes the possession of the flesh of lawfully killed game, or any part thereof, for an additional 6 months.



A HUNTER GOES HOME

by W. K. THOMAS

Over the last ridge and into his last sunset goes one of the most ardent hunters and one of the best companions any man ever had.

OF GREAT interest to sportsmen are the current and past experiences of fellow-sportsmen, whether they be the fellows who hunt or those who follow with equal enthusiasm the lure of the rod and reel. They span and help to bridge the periods of inactivity between seasons when we can neither fish nor hunt. Furthermore, they act as a safety-valve—a help in impatiently biding our time until we can once again

follow the woodland trials or our favorite creeks where lurk the wily trout or the black bass. Above all, they sharpen our anticipation of hunting or fishing trips that we, ourselves, expect to make when the proper season rolls around again.

While bringing back to memory our own successful and enjoyable days afield or afloat, these anecdotes likewise cause us to look ahead with avid enthusiasm and anticipation to the opening of the next hunting or fishing seasons when we will be accompanied by certain well-chosen friends whose good companionship and good sportsmanship have been proven through the years.

My interest in the outdoors and the experiences of fellow-sportsmen is now in its fortieth year and is just as intense today as it ever was. But over my own little horizon of certain well-loved fields and streams there has been cast a great shadow. Somehow, for the time at least, I do not seem to care whether my beloved Parker gun ever leaves its case again or whether I ever take from its cover my faithful rod and reel.

For he who walked with me for forty long seasons was called to his Happy Hunting Grounds a year ago January.

Probably a hunter who has been able to take the grind of dawn to dusk hunting over all sorts of terrain is supposed to be pretty calloused and unsentimental. Yet I am sure that there are many others who feel terribly, as I do now, the shock that comes with the passing of one who has been constantly at their side through red-letter days and through lean days for two score years.

As I feel now, I confess that I do not ever again except to get the same thrill out of an early morning start through frost-encrusted fields, or to admire so fervently the glorious, multicolored background of the brilliant falling leaves of autumn. Nor do I anticipate the same thrill from a final look at the setting sun as I stand alone on the last hill before dropping down into the valley where the lights of home twinkle their welcome to the tired and hungry hunter. No, I can expect no thrill from stopping a beautiful cock pheasant at the top of his rise for I will always and forever miss the call from nearby, "Nice going, Bill." Or the chiding and good natured remark, if I should miss, to the effect that it would have been better if I had stayed in bed that day when I couldn't hit a big target like a pheasant.

Our friendship goes back to the year 1909. We had both enrolled at West Chester State Teacher's College. Some evil-minded upper-classmen there conceived the bright idea of having some fun with two very homesick and trusting young freshmen. They took my friend-to-be aside and informed him of many untrue things that I had said about him, ending with my supposed declaration that I could "lick" him. The same procedure was then followed in my own case. As a result, we met on the athletic field the next afternoon and decided to do something about it. They tell me our enthusiastic little brawl lasted about twenty minutes before they separated us and called it a draw. That evening they told us it had all been a put-up job. We promptly looked each other up, shook hands, and started a friendship that lasted for forty years. In all that time there was never a harsh word between us except in good-natured banter.

That same autumn, now so far in the past, he asked me if I would like to go home with him on November first to hunt rabbits. Although I had been reared in the city and knew very little about guns or hunting, I quickly accepted his invitation. Somewhere between the hours of two and four on the morning of November first we left West Chester by train. At the end of this journey, and after

a walk of two miles, we arrived at his farmhouse home near Collegeville in ample time for a good breakfast and preparations for the day's hunt. Although I did not realize it them, on that day there was instilled in me a love of hunting and the woods and fields that has never diminished through all the years.

My friend's folks, who were of Pennsylvania Dutch stock, welcomed me as one of their own. If I was a friend of their son's, then I was a friend of theirs. The father was a Civil War veteran with a sharpshooter's rating and his prowess with shotgun and rifle was so widely known that he was not too welcome at local target shoots. Truly I was "on the spot" that first day—a despised city boy of which many farmers have a non-too-high opinion. I quickly decided that my best policy was to keep my eyes and ears open and my mouth shut. If I did this and admitted my greenness, I knew I stood a good chance of being taught the rudiments of gun handling and game finding that are so essential for any hunter.

In our party for that day were my new friend, his father, and two older brothers who plainly did not care too much about dragging along a "greenhorn," especially one from the city. Often throughout that memorable day, I wondered why I found myself so far away from the rest of the party. After rejoining them on several occasions, I found the answer. I was not straying away from them, but they were purposely keeping away from the "greenhorn" so that none but he would get hurt in case his gun went off accidentally.

In those days the law allowed each hunter to take ten rabbits. The final score for the day was: My friend, 8; his father, 7; the brothers, 10 each; and the "greenhorn," 0. I did notice at the end of the day, however, that my shell pockets were empty, and simple mathematics told me that I had fired 25 shots without getting a single bunny. Although I was quite disgusted with myself, my new friend was very comforting, and said that he had not expected me to hit anything that first day because of my newness to the game. But from then on and for the next few seasons, he

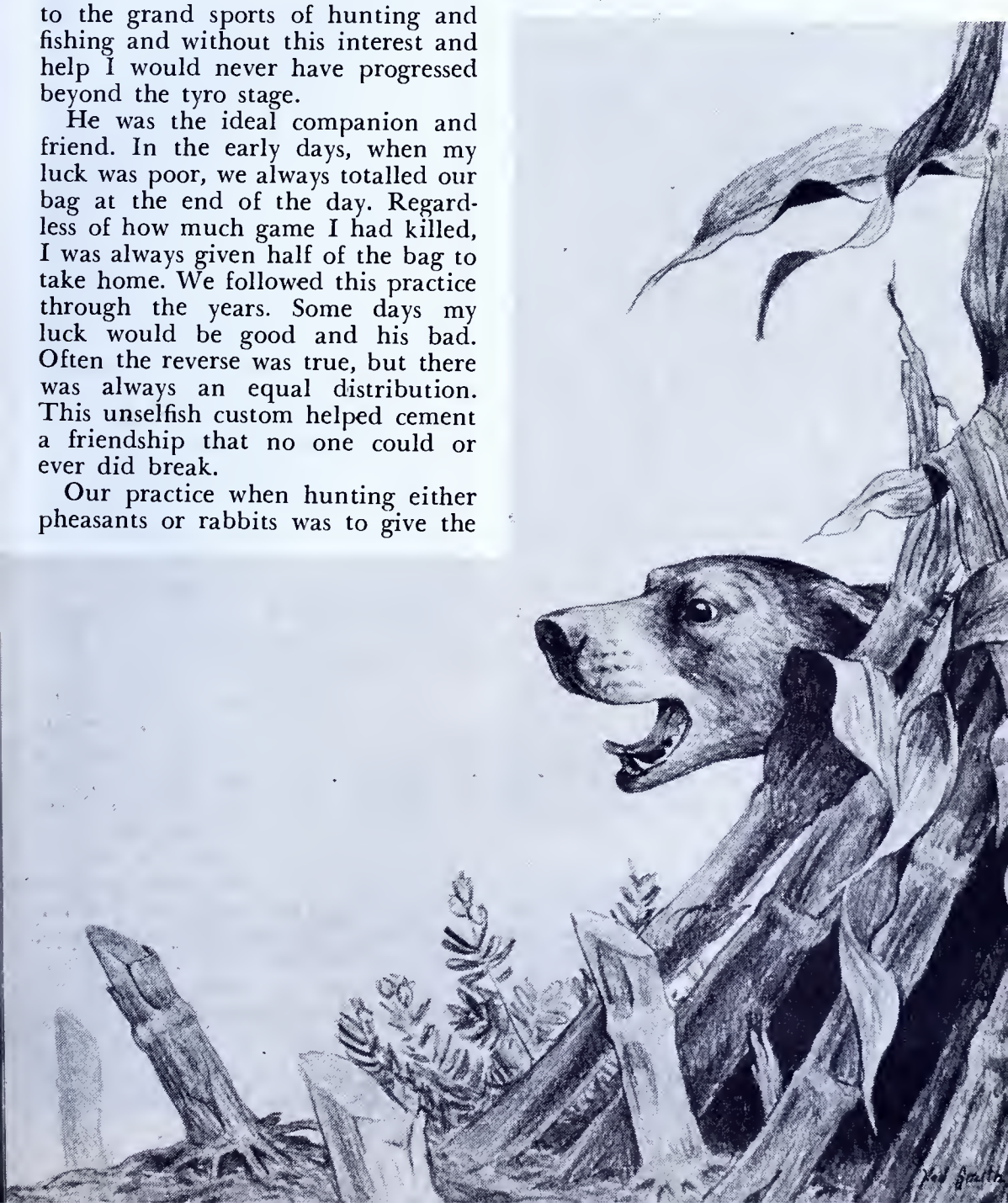


started teaching me to shoot and acquainting me with the rudiments of hunting.

Through his never-ending interest and patient teaching I started to gradually improve. At the end of three seasons I had progressed to the point where I was some credit to him and, indeed, to the point where I could give him some serious competition. Without his friendship I would never have been introduced to the grand sports of hunting and fishing and without this interest and help I would never have progressed beyond the tyro stage.

He was the ideal companion and friend. In the early days, when my luck was poor, we always totalled our bag at the end of the day. Regardless of how much game I had killed, I was always given half of the bag to take home. We followed this practice through the years. Some days my luck would be good and his bad. Often the reverse was true, but there was always an equal distribution. This unselfish custom helped cement a friendship that no one could or ever did break.

Our practice when hunting either pheasants or rabbits was to give the first shot to the man on whose side the game was first flushed. Or, if either man had already bagged a pheasant or rabbit, the next shot, when possible, was given to the man who had previously secured none. In the old days along the Perkiomen Valley rabbits lurked in plenty, and almost every shock of husked corn fodder was fairly sure of holding a bunny. If our faithful hound Bess made game at a shock, it was our



never-violated practice to take turns in shooting as we advanced through the field. The man who had made the last shot waited for the other fellow to shoot first. How different this was from the practice of many "game hogs" which you and I have known, who will shoot at game that gets right up in front of your own gun, regardless of the fact that their bag may be almost full.

If there is a type of hunter whom I detest, it is the one who is only half enthusiastic about his hunting. This was not so with my pal. He was ever ready to start a day's hunting, regardless of weather conditions. He was equally enthusiastic about making plans for future hunting or fishing trips. And, what is more important, having once made those plans, he never backed out or made excuses. If he had planned to meet you at six a. m. at a distance of 50 miles from home, you could be sure that he would be there, ready and anxious to go. It would have taken nothing less than a broken leg to keep him home. Not until the time that he reached the age of 54, when God saw fit to end his hunting and fishing days through a cruel stroke, did his enthusiasm ever wane. It was even then as strong as that found in a boy of twenty.

We have all gunned with the "wise guy" who knows all about where to find the best hunting spots, the best routes of procedure through them—the man who forever claims that his own brand of gun and ammunition are the only ones worthwhile. This was not the case with my friend. If I had gunned a section before and had learned a little about the habits of game in that area, he was always ready and willing to give my suggestions a try. The reverse was true if I were strange to any certain spot we were hunting. Or, if we were both in new country, we pooled our suggestions and experiences and together worked out our mode of procedure for that particular day.

We long ago came to the same conclusion regarding the guns and shells we used. We definitely believed that for us there were few as good and none better than the gun of our choice. We also believed that every young gunner, when starting his shooting days, should choose from America's four or five leading makes. Having done so, he would be equipped for a lifetime of service if the gun were fairly treated. And yet, upon examining other guns, which were often of the unreliable or pot-metal variety, I have never once heard my friend knock or depreciate the other fellow's choice. On many occasions we gunned on strange farms, accompanied perhaps by the farmer's teen-age son who was proudly carrying his first single-barreled gun. My friend would examine this proud possession and then praise it to the skys, for he knew that it possibly represented the hard earned revenue from many months of frugal saving and of a winter's muskrat trapping.

When some well-remembered days brought us home with game pockets full, he was ever enthusiastic yet always most modest. But even more important, when on some bad days we had hunted hard and sloshed through continual rain or snow with poor results, he never complained.

His sportsmanship and obedience to the Game Code were of the best. He never killed for the sheer joy of killing, and took only what he could use. The fact that the eyes of the law were not upon him never induced him to break the laws of his state or to impose upon the rights of the farmer who made our gunning possible. The lowly rabbit was never shot in its nest but, rather, was always given a sporting chance to get away. The forbidden hen pheasant was always safe in front of his gun for he well realized that for each hen allowed her freedom, there

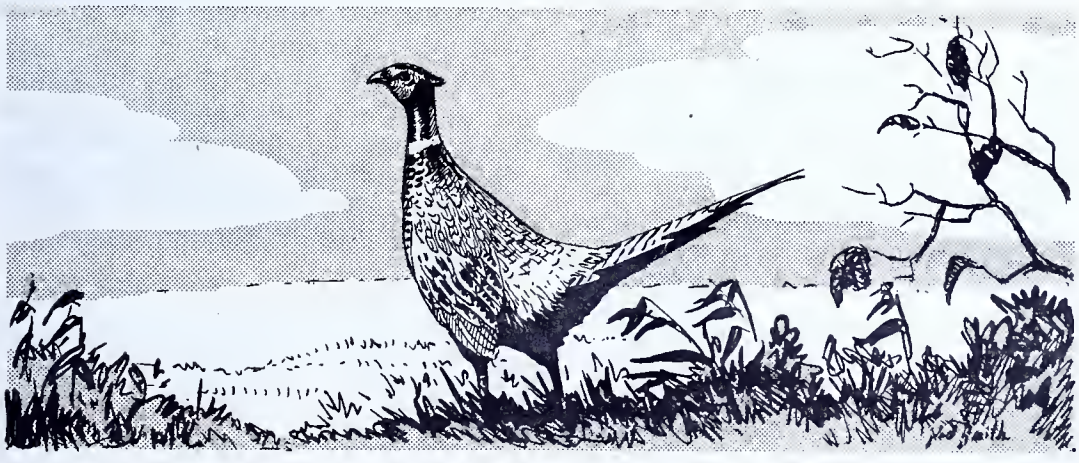
would be produced probably half a dozen beautiful cock pheasants for the next year's shooting.

After the first cruel stroke laid him low, he was allowed to live on for four more years. I should not say that he *lived* for that time, for, to one who had been as active as he, his crippled existence as he sat patiently waiting for his last summons was most heart rending. Yet he never complained, knowing that he had been richly blessed in life, and that his cup of happiness had many times been full. Quietly and humbly he had walked through life, fully cognizant of the fact that it was with God's help and permission that he be allowed to do so. When the final call came, I am sure that he faced the crossing as he had faced every other problem or adventure in life—full of confidence but with the firm belief that all would be well.

He had always been a great lover of frog shooting during the lazy August days when no other type of hunting could be done. Two summers ago I had the strong conviction that he would never recover from his affliction, and I had the thought that it would be very fitting if we could have one last little hunt together, even if it was only for the lowly bullfrog. Following long custom we hired a canoe at a certain spot along the Perkiomen above Gratersford. For equipment he carried his faithful 22 caliber Winchester Model 90 and his trout creel to hold the frogs. I lifted the canoe from the rack and slid it into the water myself, for he no longer had much power in his once strong arms. I placed him in his old position in the bow of the canoe and slowly paddled Indian fashion so that we could quietly sneak up on the ever-wary frogs sunning themselves under the washed-out tree roots dotting the stream banks. He knew, as always, where the most likely spots were, and his eyes were still good enough to spot them and to line up the sights of his rifle. He spotted eight frogs on this last, precious afternoon, and out of the eight he made head shots on seven. Not bad, for a man of any age! No word was spoken on that last afternoon about his condition, but I knew that he, even as I, realized all too well that this was to be our last trip together. The companionship of forty years' hunting and photoing together had come to an end.

I will always be glad that I was with him this day together, but I can never again paddle those same few miles of the old familiar Perkiomen. I cannot until are too fraught with nostalgic memories—memories of boyhood swimming holes, and later of favorite fishing spots, and of family picnics, when our children were young.

It was my privilege, as his closest friend, to be in the van of the little



cortege' that took him to his final resting place in the old Lower Mennonite burial grounds near the rambling and beautiful Skippack Creek that we both knew and loved so well and where we had hunted and fished together for many years. As we neared the end of the sad journey, a most amazing and ironical thing happened.

The little procession advanced slowly through the cold of the January afternoon. There was but one more field to pass before our destination, a beautiful field of winter wheat. As the lead car passed the end of the field, there leaped from a corner thicket a handsome cock pheasant, so close that the mourners could not help but see. Proudly, definantly, and with the slanting rays of the afternoon sun accentuating his bronze beauty against the verdant green of the winter wheat, he confidently but slowly wended his way across the field.

I thrilled, as ever, at the sight of such a beautiful bird, I gasped inaudibly but withheld my remarks. For only a second, now riding peaceful and solemn. My friend, in the car ahead, would have appreciated the strangeness and the fitness of what I had just witnessed. The day was indeed a strange and fitting farewell to a hunter who had loved these same fields so well. My friend, who in life would have quickly seen this bird, would have marked the spot well and would have instructed me to be at that particular wheat field on the morning of the next November first. But it will never be. That pheasant, as far as I'm concerned, can end his days at that particular hallowed place where I saw him last. I shall never hunt there again. The memory of days spent together near that quiet and beautiful Meeting House will never again be desecrated by the sound of my gun, for my friend is asleep there. Rather, I would like to think that this particular pheasant will long continue to send out his raucous call at eventide over the peaceful countryside, perhaps to penetrate the sleep of one who rests there.

On a bright afternoon this past summer I traveled the 40 miles from my home to visit the well-loved spot where my friend had asked to be laid. The grass of a new season had formed a protective blanket over him and at his head was a fitting new stone. Truly the world has lost a useful Christian citizen, and I have lost a real friend, not one of today's common type whose friendship lasts only as long as you can do something to help them, but one whose friendship was proven constant and steadfast through many long years, through lean days and through red-letter days.

As we look back over our years afield, we strangely forget the size of the daily bags, but we very strongly remember how our hunting companions conducted themselves on those days. Their conduct is vividly impressed upon our memories—whether or not they were good sportsmen, whether or not they adhered to the principles of the golden rule. The type of hunter with whom you can either make or break a day's hunting.

The hunter about whom I have written was one of the best, not for any one day, for one year but for a whole lifetime of our cherished association. He never broke the code.

I shall miss him greatly, and as he goes to meet the great Gamekeeper of the universe, I wish him good hunting, long open seasons, and a full game bag at journey's end.

. . . *The End*

The Home of Daniel Boone

By John F. Boyle



Pa. Dept. of Commerce Photo

IF YOU ask the average person where the famous pioneer and backwoodsman Daniel Boone was born, the usual replies are: "Kentucky," "Virginia," "Tennessee," but rarely "Pennsylvania." Yet it was on a spot about twenty miles from Philadelphia, in Bucks County that Boone first saw the light of day in the year 1735. When he was three years old the family moved to a frontier settlement near the present city of Reading.

Once, while on a hunting trip in the small game season with my nephew, John McLaughlin and a neighbor, Harold Goldate, we found ourselves late in the afternoon, tired and frustrated, in sight of the sightseeing pagoda that overlooks the city of Reading. Then it occurred to one of us that Boone had made his home in the vicinity until he was fifteen. My nephew recalled seeing one of those signs used to mark historic spots in Pennsylvania on the way up. Back we turned, glad to have something more tangible to look for than the elusive rabbit or pheasant.

Soon we came in sight of the sign and followed the road indicated until we came to the house itself. It was not the original log cabin we saw, the logs having long since crumbled into dust, but a stone house has been erected on the site. After ringing the bell a guide made his appearance and with great courtesy conducted us on a leisurely tour of inspection of the premises.

The home-made furniture and utensils were most interesting, showing not a little skill and artistic workmanship. As a matter of fact nearly everything in the place was made by hand which, to me at lea made the articles more fascina than anything made by the skilled machine.

In the cellar was an indoo that had serve not only frigerator but a would be avail

by Indians. This was as clear and pure as it was in those early days.

The original fireplace still stands. We can imagine the boy Daniel huddled beside the roaring fireplace after the evening meal listening to the elders as they discussed the ways of the wild and the wiles of the red men. Although the local Indians, the Lenni Lannape or Delaware tribe, were friendly enough, wandering Iroquois sometimes came on hunting expeditions and from these even the local Indians were not safe.

Each child received as part of his education a thorough instruction in the art of woodcraft. He was taught to see everything without being seen, to freeze into silent fixity at the least sign of danger, and if possible to hide from the enemy as quickly and as thoroughly as possible. Both the red and white men must have learned concealment from the wild animals of the forest. An instance comes to my mind of a day in Lycoming county while deer hunting with my nephew. We watched three does coming down a mountain and when they saw us one of them ducked behind a tree so narrow that you would wonder how she did it. When she felt safe, she came out and joined the others in staring at us. Curiosity is a trait all wild animals seem to have in common.

In the matter of forest lore Boone may be said to have graduated with the highest honors. No Hawkeye, he performing impossible though imaginary feats of woodcraft but none surpassed him in real life. Volumes have been written about this amazing frontiersman, his escapes and adventures. Even as a boy his pas- as toge- n for hunting led him to build a tiful ..abin far from the Boone home- be dese- a remote part of the forest. the fire place is the old- l flint-lock rifle sometimes er- y called the Kentucky rifle. it was not made in Ken- n Pennsylvania, as then this state was where most of the iron was forged and tools and weapons were manufactured. Even today Pennsylvania probably leads in iron and steel products. Boone's rifle was five feet three inches long. With this cumbersome weapon Boone became a deadly shot. How philosophically we could endure empty game pockets since to us a successful shot meant only an extra feast or a trophy for the den. To Boone and his companions, however, a missed shot or a fruitless day might mean no meat on the table. Game was certainly much more plentiful then or at least there were not the number of hunters that come out nowadays. Personally the method of buying meat when you need it from a butcher shop is far superior to the pioneer way of shooting it on the hoof.

The powder charge used in these flint-locks varied according to the distance and type of game. Boone became so skillful in using just the right amount that he gained his liberty thereby. In 1778 he was taken prisoner by the Shawnees and adopted into the tribe. They had a profound respect for his prowess as a hunter, but still did not trust him with too much powder and lead. By means of the utmost economy and efficiency he was able to save enough powder and lead which he cached away in a secret place to make his escape when he had sufficient to serve him on his journey home.

When he was fifteen his father decided to move south. They settled in the western part of North Carolina, near a little river called the South Yadkin. This was wild and rugged enough to satisfy even Boone himself. Here he grew to manhood and met Rebecca Bryan whom he married in due time. The neighbors helped them build a log cabin farther back in the wilderness. They called these affairs "raisings" and they no doubt were joyous occasions.

Ever thirsting for adventure,

Boone with five companions started on an expedition into the unknown region of Kentucky. On the 7th of June, 1769, they reached the Red River. Soon afterward he was captured by the Indians but managed to escape and met his brother who had started out in search of him. They came to an agreement whereby Daniel was to remain while Squire, his brother, was to return to the settlement for supplies. When he returned, they spent considerable time exploring the country together then returned to North Carolina determined to set out on an expedition with their own and some more families, about forty in all, but the results were far from satisfactory. Boone and a few others remained for a while but the rest returned. In 1775 he was engaged by a company as an agent for settling the lands on the south side of the Kentucky River where he built a fort now occupied by the town of Boonesborough, one of the many places to bear his name. This place withstood several atacks by Indians, in one of which at least there appeared the white renegade Simon Girdy who fought the white men with the Indians, and became as notorious as Boone was famous.

In 1798 Boone moved to upper Louisiana where the Spanish authorities granted him 2000 acres of land. They later made him a magistrate.

In 1804 the United States took over Louisiana and Boone's title became worthless. By incredible exertions Boone was able to pay his creditors although no one had ever pressed him for payment. Due to rascally legal technicalities he had lost his claims to his Kentucky holdings. Nevertheless his conscience would not let him rest until he had paid his creditors in full. "Now," he remarked when he had paid his last debt, "I am ready to die. I have paid all my debts and no one can say when I am gone 'Boone was a dishonest man'."

He died in 1820 in his eighty-sixth year.

This is the very brief history that we learned from our guide and by some private research of our own. Boone felt that God had chosen him to lead the van of civilization into new territory as Moses had led the chosen people into the promised land of old. In this he really succeeded. No other backwoodsman was as interesting or picturesque. No wonder then that as we made our way back to Philadelphia that evening we felt a deep sense of satisfaction of seeing and adding to our knowledge a very interesting part of early American history.

. . . *The End*

WINDBREAKS CUT FUEL COSTS

The quiet purr of an oil burner can rise to a roar in the ears of an economy-minded homeowner when the mercury dips into the lower brackets. The fellow who has to cut wood and stoke coal sometimes develops a permanent stoop by the time spring brings relief from a long, cold winter. Yet a little spring work with the spade can cut down the noise and give the coal stoker a chance to straighten his spine during the more frigid months, the Wildlife Management Institute reports.

Windbreaks planted along the edge of a house lot can cut a 12-mile-an-hour wind to nothing and calm to gentle breezes the icy, 25-mile-an-hour gusts that suck heat from a building. Windbreaks on the farm, according to the Missouri Conservation Commission, which recently undertook a study of this problem, also cut livestock feed costs and increase milk and meat production. Stock for windbreak plantings is inexpensive and often can be obtained at less than cost from state nurseries. The effectiveness begins after the first four or five years and increases annually.

Wildlife was Never Like This



by L. J. Kopp

HAVE you ever noticed how often in our daily speech we use phrases, which in one way or another refer to wildlife? Phrases such as, "Quick as a weasel"; Or, "Straight as the crow flies." These phrases are very often used to illustrate a certain point, or to define the manner in which something is done.

We hear them every day, and everybody understands what they are supposed to mean. In fact these phrases are recognized as conducive to the proper form of speech by some of our most noteworthy educators. Yet in spite of all this, most of them are wrong. It may seem queer to say, but while we recognize what they mean, it is quite interesting to note that when you take one of these phrases by itself, it actually explains nothing. To the casual observer they do nothing more then stamp a completely false impression of certain species of wildlife.

Take for example the phrase, "Night owl." This is quite frequently used among Pennsylvania Dutch people. It is pronounced, "Nochtiel" in Dutch. A person who stays out later at night than people think he should is called a "Night Owl."

The origin of this phrase is probably credited to the fact that the owl is one of comparatively few birds which search for food at night, and is generally active during the cover of darkness. Actually there is no such thing as a night owl. If the casual observer were to take this seriously, he might conclude that there was a certain type of owl which was active during the night, and that others were active some other time.

Many times when a person wants to tell you how far it is from one point to another he may say it is twenty miles from her to there. Unfortunately however he usually adds that the distance would be only about ten miles "as the crow flies." We know that the shortest distance between two given points is a straight line. Therefore I fear that those ten miles would develop into the longest ten miles you ever saw in your life. It is all wrong, simply because a crow does not necessarily fly in a straight line. They do at times fly a straight course, but only for a certain distance. If we were to take this phrase, "straight as the crow flies" for what it would indicate on the surface, we would assume that crows always fly in a straight line.

If a person happens to meet a friend which he has not seen for a certain length of time he will no doubt explain the matter by saying, "I haven't seen you in a coon's age." On the outside, looking in, it would appear that all coons are of a certain age. Just a casual glance will reveal to an average person that coons come in many different ages. Why, therefore, do we try and explain the elapsed time by refering to it as a coon's age. It is impossible, and yet we all know what we are talking about.

A person who is not getting along

too well in life might explain himself by saying "I am as poor as a church mouse." There is no such thing as a "church mouse," and furthermore, there certainly is no such thing as a poor church mouse. As a matter of fact, a mouse leads the life of a multi-millionaire. There is no end to the amount of food which a mouse can find available to either eat or destroy.

Then there is the expression, "Cold as a frog." This is one of those illustrative phrases for which I know no meaning. However a frog certainly does not describe anything which is cold. The frog may be a cold-blooded amphibian, but he is only active during warm weather months. In cold weather he is somewhere under the mud, in hibernation.

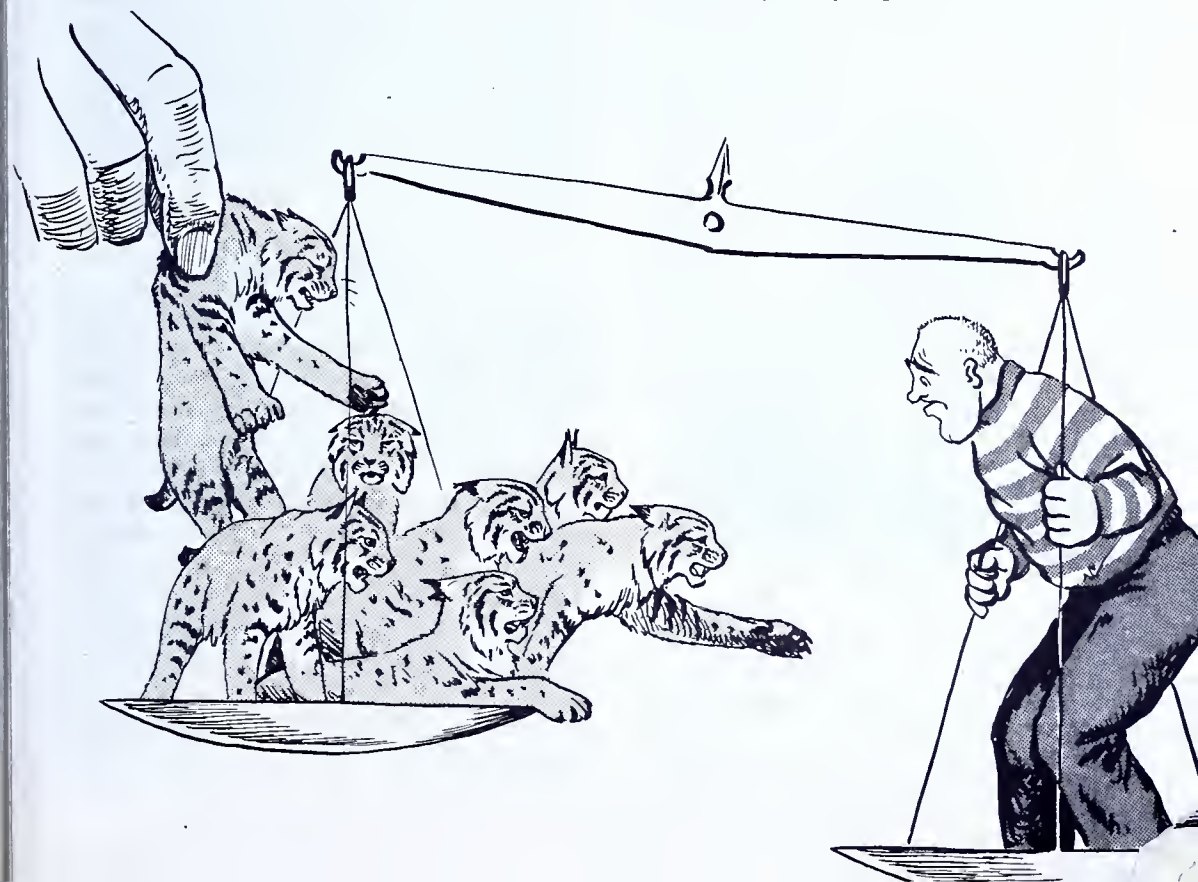
Sometimes people complain about a headache, or that they don't feel very well merely as an excuse to avoid something. This could be any number of things. Many of us will be prompted to say that he or she is playing 'Possum. The only trouble is that a 'possum does not play 'possum; he feigns death, which is his method of self protection. A 'possum which has decided that an enemy is about to do away with him, feigns death, which means that he will become motionless, and thus give the impression that he is already dead.

When you say or do something, which according to your friends you should not have done, it is highly possible that you may find it appropriate to say, "I am as popular as a skunk at a Sunday School picnic." Did you ever in your lift see a skunk at a Sunday School picnic?

Should you ever want to describe a person who is completely blind, don't say, "Blind as a mole." A mole is by no means blind. They have eyes which are so tiny that they cannot easily be seen.

From time to time you will hear a person describe a happy person by saying, "He is as happy as the birds in Spring." I wonder what gives them the idea that birds are any hap-

". . . lick your weight in wildcats? Better try weighing a few."



pier in the Spring than they are at any other time of the year.

Quite frequently you will hear a person say, "I am as hungry as a bear." Actually a bear does not become any more hungry than any other animal, even though it is understood that a bear, because of its size will consume more food then most other animals. This however should not be any reason for giving the impression that a bear is more hungry then other animals, but that is precisely what the phrase, "hungry as a bear" accomplishes.

I am beginning to wonder just who originated these meaningless forms of self expression. Not only that, but how in the world did we of the human race ever get to learn to understand what they mean?

Then there is another phrase which is quite common among Pennsylvania Dutch people. A person who has just experienced an exceptional belly-ache will probably say, "I was as sick as a dog." In Dutch it would read, "Ich wor so grunk ous en hund."



Where do we get the idea that we feel like a sick dog, or visa versa? How should we know so precisely how sick a sick dog feels?

"Quick as a weasel," or "Quick as a cat" are two more phrases which concentrate attention on two animals which are not necessarily deserving of such recognition. If you ever saw a ruffed grouse take off from under your feet, or if you ever saw a ringneck pheasant land in a brushy field and get away from the point of landing without being seen, you will agree that some changes could be made in phrases which are used to illustrate a quick movement. For that matter a muskrat is not exactly at the bottom of the list when it comes to being quick. A grey squirrel would no doubt find a place on the top of your list of agile animals. Why couldn't we just say, "quick as a flash," and be done with it?

I suppose I should now sit back and be, "As quiet as a mouse," as after all, the only time you really hear a mouse is when everything else is quiet.

In summing it up, it would appear that proper speech is not always correct. So lets keep on saying what we mean even though it means nothing. You will be, "As happy as a lark," and no doubt you will, "Sleep like a log."

. . . *The End*

MISSING DOG

Perfectly colored black, white and tan female beagle. Five years old with perfect white blazed face. Height—13 inches. Collar contained license and plate showing owner's name, "G. I. Purnell," and telephone number 3463, Bellefonte, Pa. Answers to name of "Betsy" and is very obedient. Will always come to call or whistle. Last seen Friday, December 29, 1950 just outside yard of Mr. Purnell's residence, 438 E. Curtin St., Bellefonte, Pa. Any information on the whereabouts of this beagle should be given to Mr. G. I. Purnell in Bellefonte or to Game Commission officials.

Outdoor Reveries



By John H. Day

The Breath of April

THE countryman stood in the snug glass cabin atop a fire tower in the timber country and looked far out across the wooded hills. Down below a gorgeous mourning cloak butterfly danced through the open forest aisles. The warmth of the bright April sun had lured this fragile beauty from hibernation to bring the first touch of airy grace to the leafless woods. A lone buzzard rode the updrafts on a lazy course which took him close by that hilltop lookout.

The maples blushed in rosy confusion clear across the landscape. Here and there a brooding hemlock stabbed its way through the second growth to add a somber note to the picture. Far off to the north a spreading plume of smoke was soon tracked down to a plodding freight. Another white pillar climbed into the sky on the southern horizon. The forester checked location on this danger signal but finally passed it over as a sod fire, tended by the distant farmer.

An occasional gust rattled the metal bones of the tower, and gave the countryman a few uneasy moments up there above the tree tops. The tower phone brought in a routine call from the area headquarters, as the men of the forestry service went about their task of guarding the precious wooded acreage against the fires of careless visitors to the timber country.

Arbutus, truly the breath of April, was in full flower along the woodland paths. The countryman brushed away the dry leaves and revealed the fragrant blooms hiding there among the rocks. Close by were the plump red fruits of the "tea" berry, accenting little bronzy patches of the varnished leaves.

An elusive fragrance underlined the fresh Spring smell of the woodlands. The countryman picked up this errant aroma as he splashed through the creek and set a course along the sunlit hillside. It's a mystifying perfume, a sort of essence of the breath of all the early flowering wildlings, but a sure signal to the nostrils that April is on the prowl.

From now on the countryman

hangs on to his hat and tries to keep up with the outdoor parade. There's never a dull moment once April breaks the flood gates and the surging tide of blossom and bird-song rolls across the countryside.

Already an occasional Spring peeper has waked from his frosty nest beneath the woodland leaves and has come down to the water margin to sing his piping song. The great chorus will come later, but the other evening during a wet snowfall perhaps a dozen of these tiny hylas yelped in defiance behind the house. The flakes were tremendous, many even bigger than the elfin frogs, and I shivered in sympathetic misery at the thought of one of those thin-skinned soloists suffering a direct hit.

This inch-long brown frog with the St. Andrews cross on his back is a shy fellow. You may seek him diligently for years and not find him, for his voice is that of a ventriloquist and he seems to send it hither and yon. He climbs up a convenient reed stalk, or even an old stump, swells out his throat like a tiny balloon and pipes an enormous note.

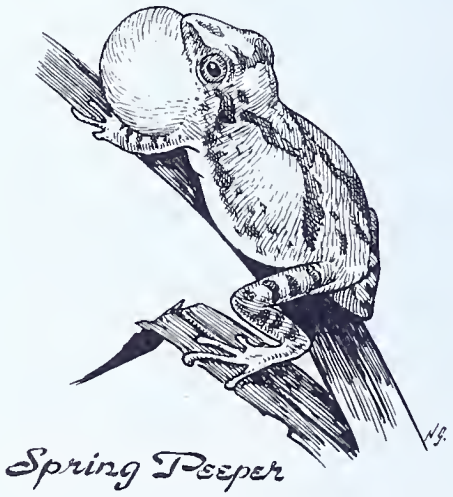
I caught up with him last year. A whole chorus set up a yelping in a marshy spot beside the trout stream just below the fishing camp. Armed with a powerful flashlight and plenty of time I moved into the middle of the singing school and sat down quietly on a stump. There was complete silence for some time and then one brave hyla struck up a tune, followed by others at intervals until the whole joint was jumping and I could hardly hear my own ears.

I probed with the light until I finally located one of the little fellows, hanging onto a tiny sapling and yelping his heart out. Once I had spotted him and knew about where and what to look for I soon marked down a half-dozen of the tiny frogs. Hunting down these elusive peepers is a lot of fun. If you want to test your outdoor craftsmanship try spotting the shouting hyla.

I hiked for a mile or so along a pleasant wooded hillside. The path followed close above the valley stream and finally lost itself in a remote gorge wehere a crystal brook bared silver cascades to the searching sun. A solitary cluster of hepaticas, in full flower, had burst through the brown mulch to share their loveliness with every passerby.

A pair of tiny brown birds with mere stubs for tails darted in and out of the tangled debris about a windfall lying by the brookside. These were Winter wrens, the smallest of their clan. The ludicrous stump of a tail and their habit of bobbing the head when alarmed are sure field marks for these little fellows, who seem more like brown field mice scrambling over the roots than elfin birds.

Water striders were skating about over the limpid pools, casting huge shadows on the brook bed. Nary a minnow did I see. A lone crow got up quietly from the depths of the gorge ahead and went away from there on stealthy wings. I spent a long time searching the trees thereabouts for the nest, to no avail, but it's a sure bet old Corvus has his castle set up somewhere near that remote ravine.



Spring Peeper

It was a day or two later that the cowbird flew into the walnut tree behind the house and eyed me sardonically as I toiled in the garden rows. The afternoon was chill, and a misting drizzle came at intervals out of the overcast. I leaned on the hoe, in classic pose, and watched the cowbird try to bust his buttons in that agonizing split whistle which is his serenade to the madam. Perhaps I should say to the mesdames, for this fellow is the Don Juan of the feathered world, with no moral standards and a distinct aversion to anything that resembles domestic ties.

I was tempted to chuck a rock at the lazy lout, sitting there whistling in the treetop while I busied myself preparing seed beds for the cool weather crops. His mates will later on sneak about in the thickets, locating the nests of other birds nearly always smaller, and depositing their eggs surreptitiously for the chipping sparrow, or warbler, or vireo to brood. I once saw a chipping sparrow's nest built in double-deck fashion, and on investigating found that a cowardly cowbird had invaded the first nest. The sparrow had built an entirely new home atop the original, sealing the interloper's egg in the foundation.

The female cowbird is a shirker and a slacker, devoid of all maternal instincts. She leaves the care of her young to the foster mother and spends her days in riotous living. During the days of the great bison herds large flocks of these gregarious birds followed the buffalo about over the plains, picking up the small insects disturbed by the grazing animals. With the passing of the bison they have transferred their attentions of grazing cattle, and may often be seen in the pastures, sometimes even perching on the backs of their namesakes, the cows.

The cowbird finally flew off down the valley and I turned back to the task at hand. I had hardly made two good passes with the hoe, when another interruption occurred. A belle of the flicker clan flew into the elm tree below the garden plots, hotly pursued by two ardent males. I know of nothing in Nature hereabouts that is funnier than the courtship dance staged by these birds. The two would-be bridegrooms bobbed and curtseyed about in ridiculous manner, each trying to outdo the other in impressing the lady.

Drums are rolling once again in the valleys and on the mountain benches in the trout country. The countryman thrills to these drums even as he shudders at the incessant drums of war. The ruffed grouse is beating those mountain drums as invitation to try the fighting brookies where the whitewater rushes down out of the mountains to the Seven Seas. I've already sent in my acceptance.

. . . *The End*

GAME NEWS SALES REFLECTS CONSERVATION INTEREST

In every one of the past four years the circulation of the Pennsylvania GAME NEWS has steadily increased. Paid subscriptions now total nearly 51,000, an all-time high for the magazine.

Subscriptions have mounted rapidly since last September, when the Game Commission's popular publication was reduced to pocket size and its context material was improved.

In addition to those sold, thousands of free copies of GAME NEWS go monthly to schools, libraries, outdoor writers, legislators, Farm-Game cooperators, and others who have a special interest in wildlife conservation.

It is believed that the rapid rise in GAME NEWS circulation reflects an awakened desire among people generally for conservation information and guidance.



Feeding the Strays

PITTSBURGH—Stray dogs and cats live well during the rabbit trapping season in some sections of Pittsburgh. One trapping agent reported a dog was making the rounds of his traps each night taking the rabbits from them and just plain killing those it couldn't eat. This dog was a smart operator, just like anyone else living on the fat of the land. He would turn the trap upside down so that the lid would fall open. Then, when the rabbit came out, the dog would pounce on the bunny or if the rabbit didn't take the cue, the dog would reach in and help himself. The trapper lost as many as four rabbits to this dog in a night. Cats are equally as good in stealing rabbits. Naturally, they can't usually turn the trap over but they can push open the lid and go in after the bunny. The traps aren't large enough to hold both the rabbit and the cat together so the cat merely pushes himself in far enough to feed on the bunny and then slides back out again, leaving the trap unmolested.—District Game Protector Robert V. Rea, Clairton.

Sweet-Toothed Skunk

MILLSTONE HOLLOW—Deputy Game Protector Colman Campbell of Latrobe was patrolling in Millstone Hollow, Westmoreland County, on December 5th when he noticed a well-used groundhog hole. While pausing to eat a chocolate bar, a skunk came out of the hole and approached the man without fear and more or less with the apparent intention of "getting a share." Rather than run, which Campbell knew was the wrong thing to do, the man threw a share of the treat to the skunk. The uninvited guest stopped in his tracks and ate the candy with much speed. He apparently did not relish the sweets for after finishing, he took off for a nearby spring, drank for some time and then returned to the hole. Deputy Campbell now carries two bars of candy—one for himself and another for any unexpected guests.—Conservation Education Assistant Bob Parlaman, Ligonier.



Deer, Lightning

JERSEY SHORE—On January 18th I was called to the Gamble Run area and Mr. Breinning's farm located on the west side of Pine Creek. He told me that several deer were killed on his property and that he did not know just what had killed them. I investigated and found the deer had been struck by a bolt of lightning that had flashed during a severe electric storm the previous night. The deer were all knocked on their right sides facing up the hill and formed a perfect triangle. Each deer had been hit in the jaw and the bolt traveled down the front of the animals and made a large hole in the hard ground. On that same day a large Golden Eagle was brought to my home by a passing motorist. The bird was apparently a victim of the same storm that had killed the deer.—District Game Protector Russel Thomas, Jersey Shore.



Panther Panic

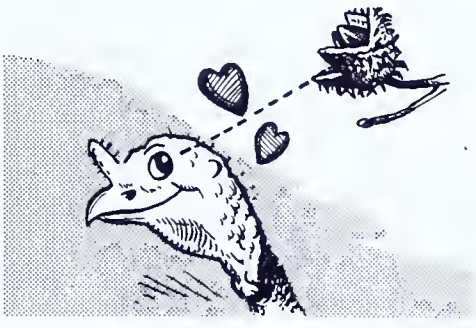
TIDEOUTE—This winter there were persistent rumors that the woods in the vicinity of Tidioute and Grand Valley were alive with wild animals such as mountain lions or similar creatures. These rumors have been floating around here for the past three years or so and a year ago last September Limestone Township was alive with these monsters. I was called out in the wee small hours of a cold January night this year to listen to a tirade of noises issued by one of these mythical creatures called panthers. The animals were supposed to be six feet long and weigh 175 pounds. Well, I have heard quite a few noises of the wild and this time I decided it was time to prove that some people let their eyes and ears deceive them. So the next day I set three fox traps and in three days had killed three large gray foxes. There have been no reports of weird noises coming from that area since I killed the foxes.—District Game Protector George Burdick, Tidioute.

Slashing Food For Wildlife

YOUNGSVILLE—An excellent example of how food and cover will attract game is the slash cutting on State Game Lands. These cuttings are made during the winter primarily to provide feed for deer but also to provide excellent cover for both rabbits and grouse. I spent some time with the Food and Cover Corps men this winter making these slashings and have been observing closely to see what benefit they are to game. They are really used by the deer, and provide a lot of tender twigs and buds for the deer to browse upon. In fact, deer like these cuttings so well that they bed down along the edges in order not to move far when they get hungry again. We select these areas in second growth or pole stage timber, preferably soft maple or aspen. The Food and Cover Corps crew will then start cutting on this area, cutting the trees not clear off but just part way through, allowing just enough of the bark and part of the stem to remain so that when the tree is pushed over it will still retain enough life to leaf out for the next year or two. Desirable species of trees such as hickory or oak are left standing and in some areas where oak predominates the tall straight trees are left standing to provide feed for game and a future timber crop.—District Game Protector Bill Overturf, Youngsville.

Beechnuts Preferred

TROUTVILLE—While patrolling State Game Lands 93 in January I observed a large flock of wild turkeys. The turkeys had come directly from a well-stocked feeder but when I observed them, they were very busy digging in the snow under some beech trees. The snow was 10 to 12 inches deep but the turkeys had dug through and were working on the beechnuts. Apparently beechnuts were on their menu that day for they certainly were going to a lot of trouble to obtain them.—District Game Protector Claude Kelsey, Troutville.





Killer Coon

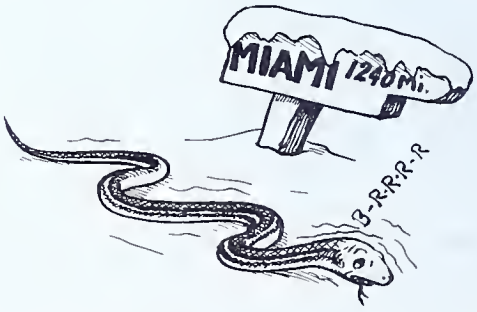
WEST PENNSBORO TOWNSHIP—On December 30th, while releasing trapped rabbits in West Pennsboro Township, Cumberland County, I noticed blood stains on the snow. Upon checking I found raccoon tracks leading to an opening in an old stone fence row. The coon had trailed the rabbit to the fence and there killed and ate it. I have always known the raccoon to be a predator but this is the first time I have noticed them killing wild rabbits.—District Game Protector George Bretz, Shippensburg.

How Hungry Is A Fox

BOARDMAN—While hunting foxes in the Lost Run section near Boardman with sportsmen from Belcena Mills and Boardman, we came upon a large red fox track that appeared to be rather fresh. After following the trail a short distance, we found where the fox had killed a rabbit. Calling the old rascal a few pet names, we continued on the trail and in about 500 yards we found where the old so-and-so had his second meal. This time it was a grouse. Getting our dander up a bit, we doubled our pace and vowed to have the varmint's hide on a stretching board before dark. Continuing along the trail for some distance, we were again stunned when we came upon the remains of a hen turkey that this fox had also killed. While examining the remains, we heard the old hound's choppy barks suddenly change to an excited bellowing and immediately knew that the old red rascal was on his way. Turning a young hound loose to aid in the chase, we selected crossing and waited. By five p. m. that evening we had three red coats turned inside out. Yes, one of the coats belonged to the old red raider.—District Game Protector Mike Grabany, Houtzdale.

Snow Snake

ALBION—One day in early December, when the big snow was fast disappearing, I walked into the woods on State Game Lands 101 to check a game feeder. When I came out, I walked smack into a Garter Snake laying there in the snow. The snake was about 20 inches long and still very much alive. His movements were very slow. I guess I should have captured the snake for when I told about the incident I found that some of my listeners were from "Missouri" and wanted to be shown. A few days later I was informed that the Greenville newspaper carried a story of two hunters who had found a "Snow Snake" in December. The article went on to explain that "Snow Snakes" were extremely rare and seldom found in these parts. I imagine they are rare, but the "Snow Snake" I found was a common Garter Snake that had apparently been a bit tardy in finding a hole to crawl into, had been caught in the snow and due to cold weather had been unable to move.—District Game Protector Clair Dinger, Albion.



Cumberland County Gateway to the South

Eighth In a Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

CUMBERLAND County, located in the historic Cumberland Valley, was the sixth county established in the State and the third after William Penn provided for the original counties of Bucks, Chester and Philadelphia. It was taken from a part of York County in 1750 and was named for a shire in England.

Land Area

The county contains 354,880 acres of which 107,776 are forested and 247,104 acres are in non-forest land. There are 230,736 acres in farms. Publicly-owned land comprises 39,236 acres and includes 837 acres of State Game Lands and 34,726 acres of State Forest land.

Topography

The north and south boundaries are mountainous but the central valley is fairly level. Much of the county is underlaid by limestone, producing agricultural lands of great fertility. The county is drained mainly by the Conodoguinet and Yellow Breeches Creeks which flow into the Susquehanna River.

Transportation

Railroad transportation is furnished by the Pennsylvania (Cumberland Valley) and the Reading lines. The county has 492 miles of improved State highways, including such important routes as U. S. 11 to Hagerstown, U. S. 15 to Gettysburg and Washington, and U. S. 111 to York and Baltimore. The Pennsylvania Turnpike traverses the county.

District Game Protectors

George D. Bretz, 334 Walnut Street, Shippensburg, has jurisdiction over Hopewell, Upper Mifflin, Lower Mifflin, Upper Frankford, Lower Frankford, North Newton, West Pennsboro, Southampton, South Newton, Penn, Cooke and Dickinson Townships.

Homer H. Thrush, Boiling Springs, has jurisdiction over North Middleton, Middlesex, Silver Spring, Hampden, East Pennsboro, South Middleton, Monroe, Upper Allen and Lower Allen Townships.

Fish Warden

George H. James, 65 E. Louther Street, Carlisle.

District Foresters

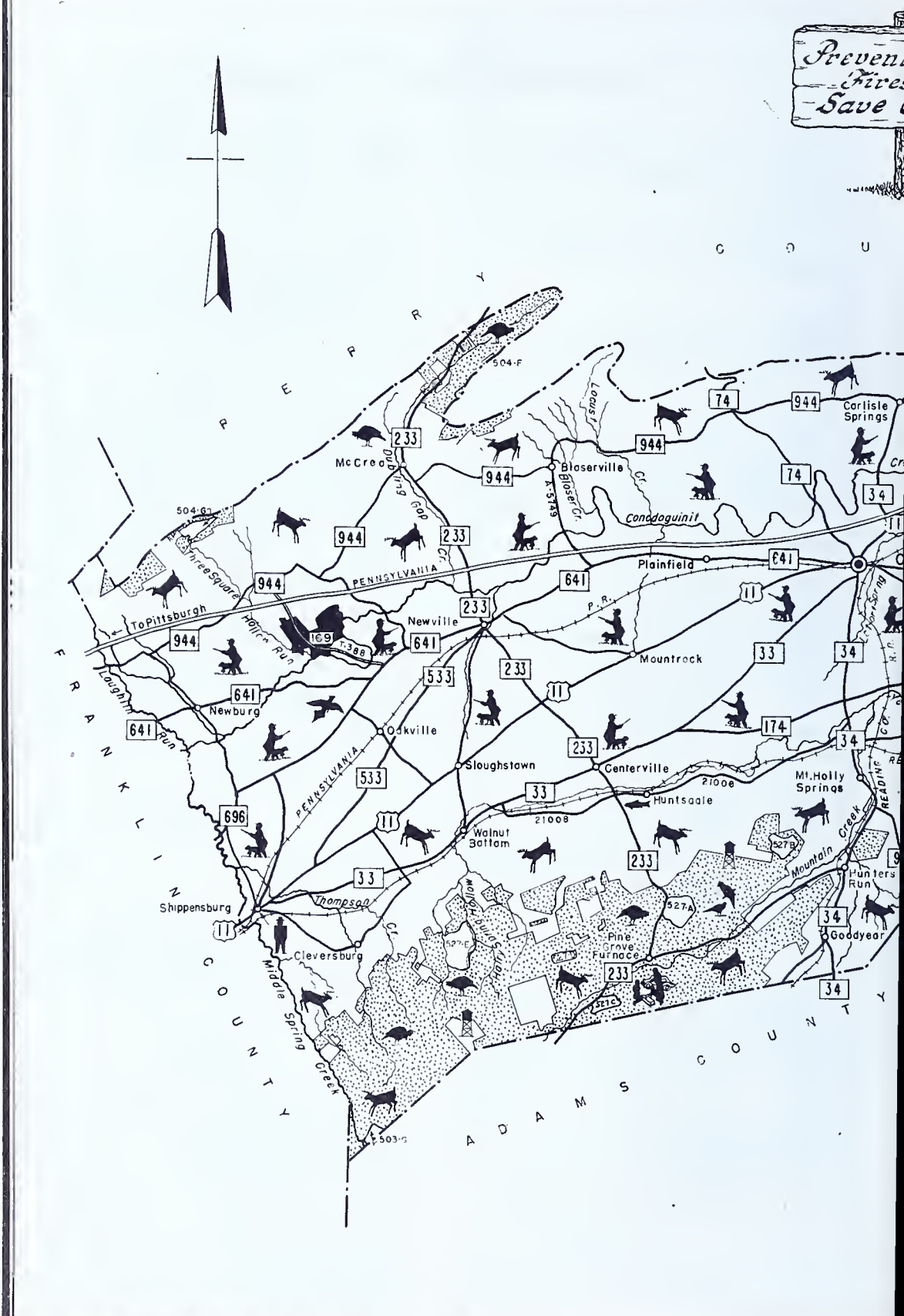
Thomas G. Norris, Fayetteville, and George M. German, Blain, have jurisdiction over State Forest land in the county.

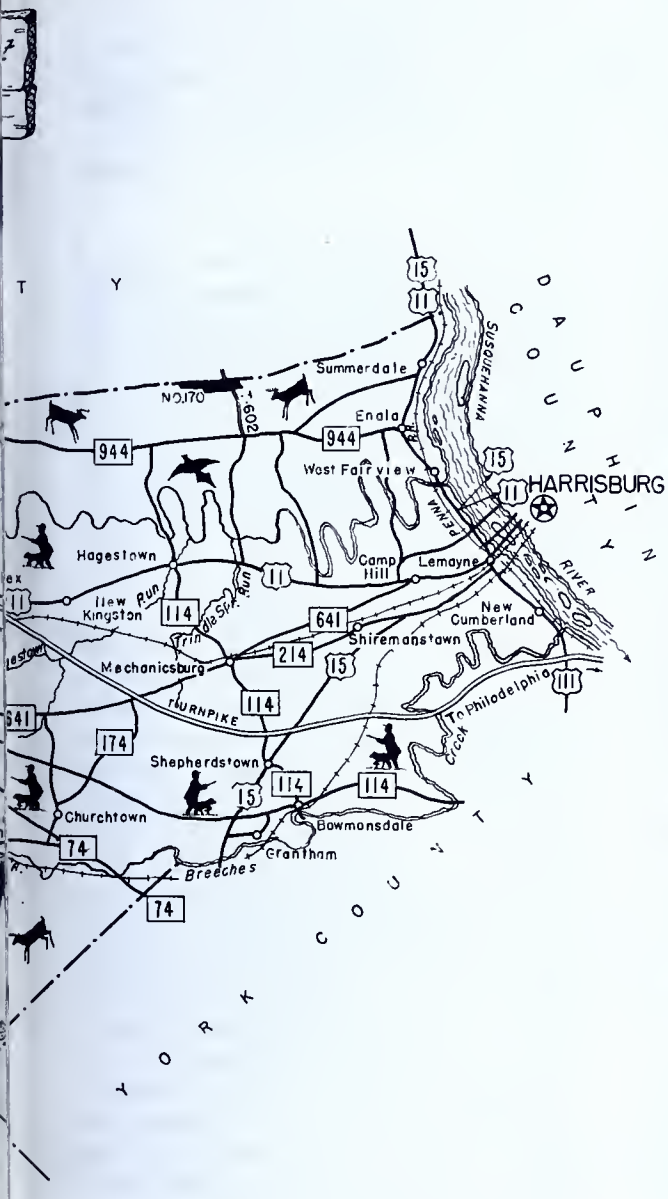
Agriculture

With its broad valleys the county has always been an important agricultural area, growing grains and producing very fine fruits. The chief crops are corn, wheat and apples.

Industry

County industry has been varied and includes metals and metal products, leather and leather goods, and textiles. The chief products are car-


Preven
Fire
Save
PERRY COUNTY
FRANKLIN COUNTY
ADAMS COUNTY
504-F
504-G
McCreadyville
Gap Run
Bloserville
Bloser Cr.
T-379
Conodoguinit
Carlisle Springs
Three Square
PENNSYLVANIA R.R.
Plainfield
To Pittsburgh
Holicks Run
T-388
Newville
Mountrock
Laughlin Run
Newburg
Oakville
Sloughstown
Centerville
Huntsdale
Mt. Holly Springs
Walnut Bottom
Thompson Cr.
Shippensburg
Cleversburg
Middle Spring Creek
Mountain Creek
Hunters Run
Pine Grove Furnace
Goodyear
527-A
527-B
527-C
527-E
527-F
74
944
233
641
111
34
33
533
696
174
2100E
2100S



···KEY···

- County Seat.
- Farm-Game Project. (Open to hunting.)
- State Forest Fire Observation Tower.
- Game Protectar's Headquarters.
- Game Propagation Area.
- Deer Hunting.
- Wild Turkey Hunting.
- Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream.
- State Forest Land.
- State Game Land.
- State Fish Hatchery.
- 527-A Primary State Game Refuge on State Forest Land.
- State Park.
- 641 Pennsylvania Route Number.
- 11 U.S. Highway Route Number.
- 1008 Legislative Route Number.
- Township Route.

PENNSYLVANIA
GAME COMMISSION

CUMBERLAND COUNTY
PENNSYLVANIA

Scale in miles

L.A.M.

pets and rugs, silk and rayon cloth, yarn and thread, shirts, shoes, clothing, bread and other bakery products, rubber tubes, paper stationery, railroad supplies and steel castings. One of the world's largest rail yards is located at Enola.

Historic

The Scotch-Irish were the earliest settlers, having penetrated to the valley in the 1730's, driving the Indians out of the land reserved to them by treaty. As the last line of civilization, the valley settlements were the frequent scenes of massacre during the French and Indian Wars, leading to the establishment of the frontier forts at Shippensburg, Carlisle and other points. George Croghan, an early Indian trader and Provincial agent, had a post near Sterrett's Gap, then called Croghan's Gap, north of Carlisle. The county was one of the first to rise against the British crown, Col. William Thompson's First Pennsylvania Regiment receiving many recruits from the county. The Carlisle Barracks of the U. S. Army is one of the oldest military posts in America, soldiers of the Province having mounted guard there as early as 1750. The guard house was erected in 1777 by Hessian prisoners and is still in use as an army school, after having been used at one time for the famous Carlisle Indian School.

Carlisle, the county seat, and well known as the home of Dickinson College, was laid out on the site of Le Tort's spring in 1751. Molly Pitcher, Revolutionary War heroine, is buried here. Carlisle's largest military force was assembled in 1794 when President Washington reviewed 15,000 troops assembled there to march against the "Whiskey Rebels." In 1863 the town was twice occupied and afterwards bombarded by Confederate troops. James Wilson, second only to James Madison of Virginia as architect of our Constitution, was for some time a resident of Carlisle. Both Shippensburg and Carlisle were important way stations on the long trek of early pioneers to the western territories and thousands of frontiersmen with their Conestoga wagons passed through the Cumberland Valley en route to the West to build America.

Recreation—Hunting

Cumberland county offers a wide variety of small game hunting plus some deer hunting, principally in the South Mountains. Two tracts of State Game Lands are located here—Number 169 near Greenspring comprising 702 acres and a small portion of Number 170 near Wertzville comprising 135 acres.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stocked waters) include: Big Springs, brook & rainbow trout, Newville, 4 mi.; Boiling Springs Lake, brown & rainbow trout, Boiling Springs, 9 acres; Cockley Run, brook trout, Sheppardstown, 2 mi.; Green Springs, brook trout, Newville, 2 mi.; Hogestown Run, brook & rainbow trout, Hogestown, 4 mi.; LeTort Springs, brook & rainbow trout, Carlisle, 3 mi.; Middle Spring Creek, brown trout, Shippensburg, 4 mi.; Mountain Creek, brook & brown trout, Pine Grove Furnace, 6 mi.; Old Town Run, brook trout, Boiling Springs, 3 mi.; Yellow Breeches Creek, brown & rainbow trout, Huntsdale, 10 mi.; Carlisle Water House Dam, black bass, Carlisle, 48 acres; Conodoguinet Creek, black bass, Carlisle, 40 mi.; Susquehanna River, black bass, New Cumberland, 9 miles.

State Recreation Areas

Pine Grove Furnace State Park located in the south central part of the county contains two fine lakes—Laurel and Fuller—and provides facilities for camping in cabins, tents or trailers, fishing, hiking, picnicking and swimming.

Conservation — A Way of Life

By Henry Klonower

MAN has a way of making everything formal. His way of thinking is expressed in patterns. Eventually these patterns lose their point of reference. They become embodied in an organization. In the evolutionary process, the organization continues to receive additional emphasis. Eventually, the pattern becomes the entire point of emphasis. Whenever an idea become institutionalized, the chances are strong that its effect on the individual diminishes as time goes on.

A program designed for the improvement of human conduct must become a part of the individuals concerned if effective results are to be realized. Education that remains outside of the learner is not education, nor is any movement designed for the betterment of society effective until an effective point of contact is reached. All education is a way of life, tolerant and understanding. It expresses an impression.

Conservation is a way of life. It is human conduct which emphasizes the preservation of material and moral values. Such a way of life must become a habit purposeful and meaningful. The recognition that each generation holds a trusteeship for all the things that make life worthwhile is the first step in a real conservation program. Each succeeding generation inherits these values. The need must be recognized not only for increasing the sustaining values of both material and moral values, but also recognizing the rightful use to which these values should be put. Nothing is inexhaustable. Unless each generation recognizes the responsibility for the rightful use, the preservation, the extension, and the transmission of these values, society is doomed.

Conservation receives its greatest emphasis in the fields of natural resources, soil, water supply, fish, game, wild life, forests, and minerals. These resources are the best tools with which to inculcate the basic philosophy involving the conservation concept. Teachers in the schools of America must be familiar with the relationship of the conservation of these natural resources to a full and rich life; but more fundamentally, teachers must know the implications of a conservation program for all phases of human relationship.

The Sixth Pennsylvania Conservation Education Laboratory for Teachers continues an experiment cooperatively sponsored in 1946. This is an effort to weave into the pattern of education an awakening consciousness of the problems of conservation. Various departments of



Dr. Henry Klonower

Director, Teacher Education and Certification Department of Public Instruction Commonwealth of Pennsylvania.

the State Government have contributed funds and instructional service; lay organizations throughout the Commonwealth have generously donated scholarships and financial assistance in support of the project.

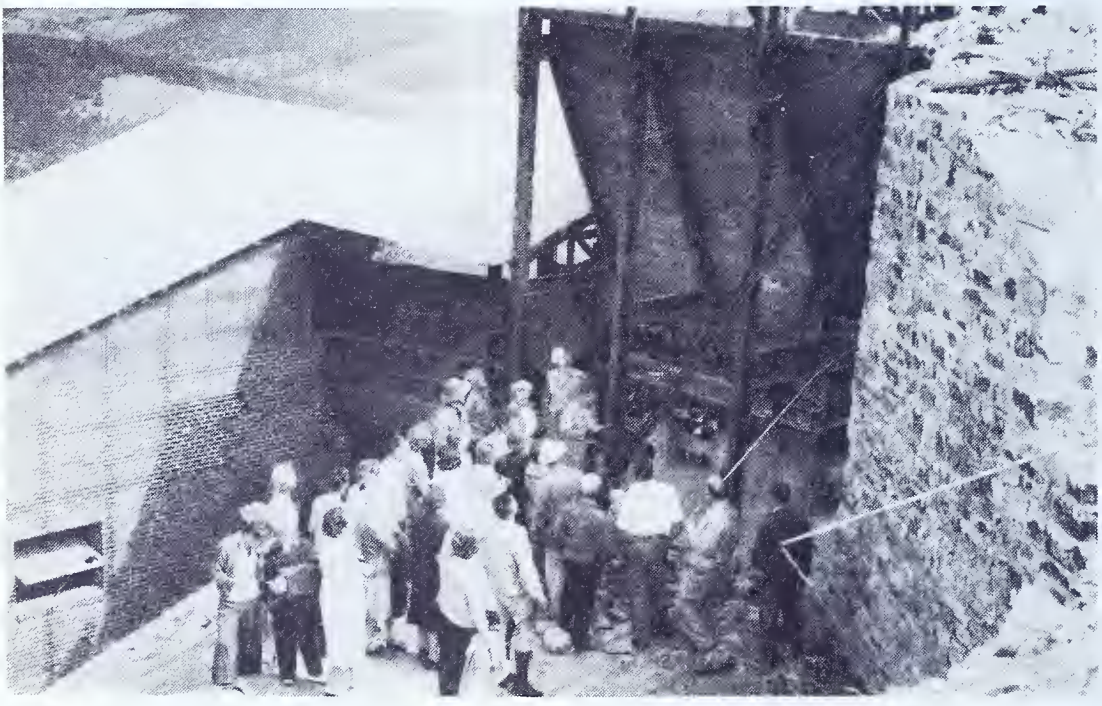
The success of the First Laboratory prompted the members of the sponsoring groups to initiate the Second, Third, Fourth and Fifth Conservation Education Laboratory for Teachers. The Pennsylvania State College has been generous in cooperating with the sponsoring groups. The College not only has organized and administered the Laboratory, but also has incorporated the entire experiment as an integral part of its summer sessions.

The success of the preceding Laboratories has encouraged the sponsoring groups to launch the *Sixth Conservation Education Laboratory for Teachers* at Pennsylvania State College, July 2 to July 21; and July 23 to August 11, 1951. The Sixth Laboratory is predicated on the belief that the fundamental philosophy in conservation education can be taught as any other subject in the curriculum is taught. It will be taught better if teachers are better prepared.

The education of teachers in this field is a step toward achieving the right attitude of mind in a wholehearted and farsighted program to conserve not only the material resources, but the spiritual and moral gains of this generation. The transmission of this ideal from generation to generation is a challenge. Teachers will accept the challenge when there is an awareness of its import.

The next generation must necessarily be taught to contribute to the sum total of nature's resources—to conserve them, not to waste and despoil them. This will result from right attitudes, attitudes that become the points of reference for human conduct. The challenge is the awakening of a moral consciousness.

. . . *The End.*



PGC Photo by Batcheler

Teachers attending the State College Conservation Education Laboratory will make many on-the-ground studies of conservation problems including mining operations as shown here.



Game Breeding Stock Reported Abundant

Since the close of the 1950 hunting season the supply of wild game generally appears more numerous than is usually the case. In some sections the present seed stock reported is equivalent to that available at the beginning of some open seasons.

Rabbit hound trainers report numerous chases this winter, often in territory where cottontails appeared scarce in the 1950 season. In their natural range, many cock pheasants that escaped the gun last fall now strut in brilliant contrast to the snow backdrop.

It is generally believed that lessened hunting pressure in 1950, habitat improvement programs and the restocking of certain game species account for the unusual amount of brood stock showing up at this time.

Barring serious difficulties, farm-game species and some of their woodland cousins should be more abundant this fall than last. It remains to be seen whether limiting factors such as winter kill, predation and a poor hatching and nesting season will offset increases made possible by the exceptional amount of seed stock in the coverts now.

———

New Duck Program In Prospect

Early this spring, near the Pymatuning waterfowl refuge on the Conneaut Marsh in northwestern Pennsylvania, the Game Commission will launch a new waterfowl project. There, about 5,000 day-old ducklings, largely mallards but including some black duck and mallard crossbreeds, will be reared to six weeks of age. These young ducks will then be distributed to Game Protectors for release on back area lakes and beaver ponds over the state.

It is the hope of game authorities that each spring ducks so stocked will return to the waters where they were released, there to produce an additional supply of "home grown" birds for Pennsylvania hunters. Reports on similar programs conducted elsewhere indicate the probable success of this venture.

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Day-Old Pheasant Chick Program Expands

A project that has done much to improve the state's ringneck pheasant population and to encourage good relations with the farmer has been the Game Commission's pheasant rearing program.

Last year, for the first time, day-old pheasant chicks from state game farms were distributed to farmers possessing proper equipment and whose lands were open to public hunting. Previously, sportsmen's organizations, individuals and farm-game cooperators were permitted to rear the chicks.

In addition to furnishing the chicks, the Commission supplies 5 pounds of pheasant starting feed per bird and recompenses farmers at the rate of $1.00 for each fully feathered, healthy bird raised to 12 weeks of age and turned over to a representative of the Commission for liberation.

Requests for information on this program should be directed to a District Game Protector, a field division office or to the Game Commission's Game Propagation Division office, Harrisburg.

The number of pheasant chicks supplied for rearing under this program increased from about 120,000 in 1949 to 166,000 in 1950. The goal set for this year is 200,000.



National Audubon Society Photo

A member of the Audubon Society Staff examines a set of the newly-issued Audubon Centennial Stamps. In the background is Audubon's original oil painting of the Ivory-billed Woodpecker, which is reproduced in miniature underneath the self portrait of the pioneer artist and naturalist.

Audubon Society Issues Centennial Stamp Set

A flamingo stalking along a mud flat, ivory-billed woodpeckers searching for grubs, and a snowy owl against a blue-black sky are a few of the dramatic subjects portrayed in the full-color Audubon Centennial Stamps recently issued by the National Audubon Society.

John H. Baker, president of the Society, says, "These beautiful miniatures of Audubon's most colorful paintings are published to commemorate the centenary of the famous naturalist's death in 1851. His bird portraits have never before been reproduced in stamp form."

The Audubon Society recommends that the Audubon Centennial Stamps, consisting of 24 miniatures to a set, be used to decorate letters, envelopes and packages "in order that Audubon paintings will receive during the Centennial Year the public attention which they merit."

Proceeds from the sale of Audubon Stamps will be devoted to the conservation work of the National Audubon Society. They are being sold at the rate of two sets for one dollar and are available either from the headquarters of the Society at 1000 Fifth Avenue, New York 28, N. Y., or from local Audubon organizations throughout the continent.

John James Audubon, pioneer artist and naturalist, died in New York City on January 27, 1851, after completing the 435 paintings for his monumental "Birds of America," which brought him world-wide fame.

Mr. Baker states, "Audubon was one of the first Americans to express concern about the depletion of our native wildlife. He inspired the birth of the conservation movement in America. The first Audubon Society was organized in 1886. Its successor has grown to be one of the largest and most influential organizations dedicated to conservation of natural resources. Therefore, we take pride in issuing a set of Audubon Centennial Stamps as a tribute to the great naturalist's life and work."

SIXTH STUDENT CLASS

ROSS LEFFLER SCHOOL OF CONSERVATION

Graduation Exercises

APRIL 28, 1951

Graduation exercises for the Sixth Student Class of the Ross Leffler School of Conservation will be held in the Forum of the State Education Building at Harrisburg at 10:30 a.m. on Saturday, April 28, 1951. Twenty men who started the course of training last May will receive commissions as Pennsylvania Game Protectors. The public is cordially invited to attend the ceremony.



The William T. Hornaday Award

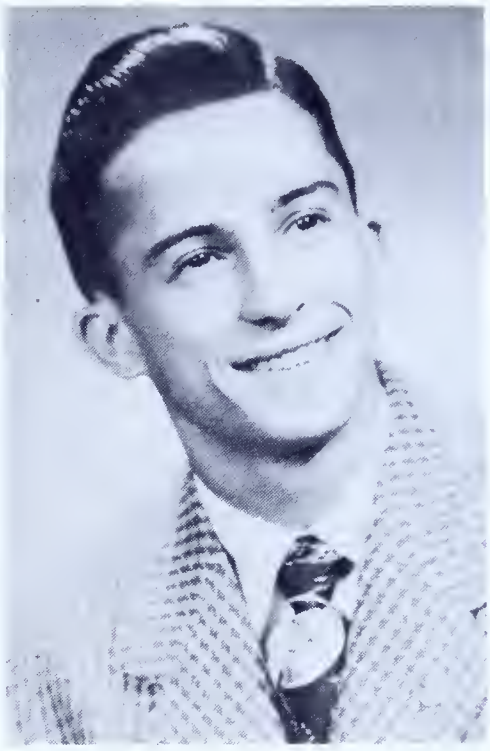
READING SCOUT WINS CITATION FOR CONSERVATION

Robert S. Adams, 18 year old Eagle scout of Reading became the first Boy Scout in Berks County and possibly in the State to receive the William T. Hornaday Award for Distinguished Service to Conservation, according to a recent announcement from the Daniel Boone Council comprising several southeastern counties. The award was approved by the National Council of the Boy Scouts of America. A gold medal and letter of congratulations from Dr. Arthur A. Schuck, national Scout Executive, was presented to Scout Adams at a Council Scouters appreciation dinner in Reading on January 20. This award is given by the New York Zoological Society in honor or Hornaday, the society's first director.



Joseph P. Willson

On February 20, the State Senate unanimously confirmed the reappointment of Joseph P. Willson to the Pennsylvania Game Commission for an eight year term ending in January, 1959. Commissioner Willson was originally appointed December 29, 1949.



Robert S. Adams

Scout Adams joined the Boy Scouts in 1944 and attained the rank of Eagle Scout in April, 1950. Wildlife Conservation and Forestry Merit Badges were earned in this effort. Scout Camp was attended for a five year period where many of his merit badges were acquired. In 1947 young Adams joined the local chapter of the Izaak Walton League of America. Dr. John Focht, Wernersville, then president of the organization, offered "Bobby" an area of 114 acres in South Heidelberg Township, Berks County, to develop as a wildlife refuge. With assistance from Game Commission personnel and members of the Walton League, he applied many outstanding conservation practices to his project area and provided successfully feed and protection for all forms of wildlife. As a leader in this outdoor interest, he became president of the Berks County Junior Chapter, I. W. A. A. His lifelong ambition is to enter wildlife conservation work when he graduates from Reading High School this June.

Senate Resolution Introduced in the Senate of Pennsylvania on February 19, 1951

By Senators John M. Walker and
Elmer J. Holland

TO BECOME ninety years of age is an event that may truly be termed extraordinary. That great conservationist, John M. Phillips has at last achieved a goal to which many men aspire, but which few attain. It may, therefore, be a likely presumption that John M. Phillips has applied to his own life those same scientific principles of conservation which he has so zealously espoused in behalf of our stream and forest resources.

The history of conservation in Pennsylvania is really contemporaneous with the current life of John M. Phillips. For, he was among the first to appreciate the consequences of a reckless cutting of our trees and an uncontrolled slaughter of our wildlife. Such an interest and a concern became the forerunner to the organization of the Game Commission in Pennsylvania in 1895 In 1905, he became a member of the Commission and later served as its president. He has never ceased to give close attention to the activities of the Commission; and this intimacy of association and knowledge has created in him a source from which counsel and advice are frequently drawn. In 1913, he sponsored to the stage of successful enactment the Resident Hunter's License Law. His leadership and guidance in matters pertaining to forests and wildlife have premised the passing of the basic Game Code of Pennsylvania by which we are privileged to enjoy our game lands under properly regulated conditions.

In August of 1948, a bronze plaque was set up in Elk County to commemorate his influence in sponsoring conservative legislation and includes the following inscription: "Recognition of his untiring efforts to develop the State-wide system of public hunting ground and game refuges."

The influence of John M. Phillips has not been confined to his own State. His thoughts and principles have irradiated into other areas and have significantly shaped the policies of the Canadian Government with respect to their game refuge in British Columbia.

John M. Phillips throughout his long career has been an indomitable warrior to preserve everything that is good and cherished in *our* fast disappearing primitive woodlands and lakes. The marauder of the sylvan scene, the despoiler of lake beauty, the unrelenting killer of wildlife, have all felt the rebuke of his wrath and the strength of his courage when they have dared to encroach upon the few surviving precincts of untrammeled nature in their wanton pursuit of pleasure.

From the eminent summit of his ninety years, John M. Phillips has a commanding retrospect of achievement and experience that rarely comes to any man. A span of ninety years is mathematically only nine decades, but when measured in terms of a life's experience it encompasses the throbbing, exciting, and miraculous growth of our country during the tragic days of the Civil War, through the perilous periods of



Pittsburgh Post-Gazette Photo by Bindyke

Attending John M. Phillip's 90th birthday celebration in Pittsburgh were many old friends. Shown here congratulating Mr. Phillips are, left to right, J. Hammond Brown, of Baltimore, national president of the Outdoor Writers of America; Mr. Phillips; Seth L. Meyers, of Sharon; and J. Ernest Roth, a long-time friend.

World Wars I and II, to the hazards of the present universal discord.

The panorama of history that can be revealed, the dramatic picture of industrial expansion that can be disclosed, the reorientation of peoples and geography that can be surveyed are the unique privilege of a nonagenarian. John M. Phillips has, indeed, been given a gamut of experience on which nature has lavished her most prolific gifts, therefore be it

Resolved, That the Senate of Pennsylvania salute John M. Phillips on his ninetieth birthday anniversary and extend to him its heartful congratulations for having attained a truly majestic milestone in life. It acknowledges its appreciation of his outstanding performance in the unrelated fields of conservation of our streams, forests and wildlife; of invention and discovery; and of successful business practice. The Senate further offers to John M. Phillips its devout wish that his health, life and happiness will continue for many years; and be it further

Resolved, That a duly certified copy of this Resolution be transmitted by the Secretary of the Senate to Mr. Phillips at his home, 2336 Brownsville Road, Carrick, Pittsburgh, Pennsylvania



Bow Hunting Techniques

By Thomas A. Forbes

The modern bow hunter differs from his brother with a gun not only in the matter of the weapon with which he is equipped but in the manner of conducting his hunt. It is customary for gun hunters to organize drives with a number of the party acting as beaters. The object is to start the deer moving in the area and drive them past companions who are placed at strategic locations, generally along runways or at deer crossings. The limitations of the bow require a bow hunter to close to short range and his shooting must be done in fairly open territory. It is not only necessary to have a direct line of vision to the quarry, but the bow hunter also requires an unobstructed vertical clearance above the line of sight because the arrow travels in an arc and rises and then falls on its way to the mark for a distance which may amount to 18 to 14 inches at 40 yards. The bow hunter envies the American Indian his stealth and cunning in stalking game at close quarters. This means that the bow hunter must actually outsmart a deer at the deer's own game of moving noiselessly through the woods and taking advantage of available cover to maneuver into position for an unobstructed shot. Reports from Michigan indicate that deer were shot from an average distance of 28 yards. Brother, when you can stalk a deer to that distance you are a hunter. Blinds located about 20 yards down wind from a runway can also be used, but the bow hunter must depend on deer using the runways without being driven by beaters, as an arrow is too easily deflected in flight by twigs or branches to give a bow hunter even an outside chance at a deer running through cover.

Stealth then is the primary requirement in hunting deer with the bow and arrow. Some sportsmen in discussing a possible open season for deer have feared that bow hunters will cause wildness in the herd and place the gun hunter at a disadvantage later in the season. In the small game season grouse hunters in numbers exceeding the number of bow hunters in the ratio of 48 to 1 roam the deer territory in Michigan and on this basis it would not be reasonable to assume that the herd would be disturbed unduly by the bow hunter. Representations before sportsmens organizations in Pennsylvania on the question of a special archery season have raised the question of holding this season following the regular deer season instead of before the season. It is not chance that has been the factor in creating a preseason for archers in the various states, nor has it been to get "first shot" at the deer as has been assumed. Weather has been the controlling factor. The bow hunters movements are and must be slow and deliberate if he is to have a chance at a deer or he must remain quietly in a blind for long periods of time on the chance that a deer may of its own choice travel that way. Little enjoyment could be expected in the rough weather that may be experienced after the close of the regular season while the mild weather of fall makes it a desirable time to be outdoors.

How effective is the bow and arrow for killing deer? One veteran deer hunter sums up the effectiveness of the bow with the following story:

"Using a 30 30 Winchester Carbine 94 model with 110 grain hollow point bullets I have hunted deer for nineteen years in Michigan and killed 19 bucks. In 1944 I became interested in archery and in that year shot a six-point buck. The shot was quartering from the rear into the stomach, the shaft entering about eleven inches. The buck fell dead after running about 20 yards. I wouldn't have gotten that buck with the same hit with a rifle without a long chase." An arrow used by bow hunters is tipped with a metal broad head approximately 1 1-8 inches wide and weighing about 1¼ ounces. Unlike the bullet which depends on shocking power the arrow does an excellent job of cutting blood vessels in entering the body of a deer. A rib is no obstacle to the broadhead and a chest shot is desirable because it produces bleeding and frequently the lungs are punctured and collapse. A majority of the deer killed in Michigan in 1945 dropped within 100 yards of the place where they were hit and the average deer was recovered at 211 yards. Since the deer is not aware that the hunter is near, or of what hit them, they lay down quickly after being shot and the bow hunter saves time who allows plenty of time for the deer to bleed before going after it.

Just a word about the weight of a bow which means the force necessary to bring it to full draw. A forty pound bow is adequate where the broadhead does not have to penetrate bone. Beginners are liable to measure a bow's worth by its weight and make the mistake of securing a bow which taxes their limit of strength to draw.

Such a bow is unnecessary and a handicap to the hunter. Remember that one soon stiffens as he sits or stands in a deer blind in cold weather and finds it increasingly difficult to draw the bow. Too, on a cold day a bow may acquire a ten percent additional drawing weight on account of the weather. Hunting bows are generally heavier than target bows and since they are drawn infrequently a drawing weight of 60 pounds can be used by an experienced bowman. A novice, however, should confine his efforts to a lighter weight bow.

If you have followed me this far in this article and still have doubts about the penetrating ability of the broadhead shot from a fifty pound bow, try this experiment. Take your deer rifle and try to shoot through a five quart bucket of sand using your regular deer ammunition. It can't be done. A broad head hunting arrow shot from a 50 pound bow will pass through the same bucket of sand easily.

WOOD CUTTING ON STATE LANDS IMPROVES GAME HABITAT

During 1950, a total of $42,304.45 was derived from the sale of forest products from State Game Lands. This amount, deposited in the Game Fund, represents sales of saw timber, paper wood, chemical wood, mine timbers, and firewood.

More important to Pennsylvania's wildlife than the money received was the improvement to game habitat resulting from the timber cutting. The removal of these wood products allows sunlight to reach the forest floor, stimulating seedlings, sprout growth, food producing vines and shrubs—all of them favorable to wildlife. Also, brush piles, a natural result of the operations, provide nesting sites and retreats from predators. These changes always pay off in a greater forest game supply.



Trapline Problems

By L. J. Kopp

ACCORDING to Websters dictionary, a problem is a question for solution. In trapping there are a number of such problems for which trappers and others have been trying to find a reasonable solution.

In this particular instance, the problems do not only concern the trapper. They are open for thought by all persons who are interested in creating better sportsmenship in the outdoors.

Possibly the problem of eliminating the trap and fur thief is the most disturbing of all. Generally, trappers long ago formed the habit of setting their traps in such a manner that they are hidden from view of a casual passerby. At the same time however, we hear all too frequently of traps or catches mysteriously disappearing.

There are several classifications of trap and fur thieves. The type who considers trap stealing as being nothing short of private enterprise is on top of the list. These however are comparatively few in number, since we have ways and means of combating them.

Then there is the type who is a strict follower of the old saying, "finders-keepers." He assumes that traps out in the woods are contraptions left there by old Daniel Boone.

Another type is the one, who upon finding a trap, with or without a catch decides that here he is going to demonstrate his ability to make an easy buck, and get away with it.

We could go on and discuss other variations of these trap thieves, but these three types are the main cause of our problem. One of them is in the business of stealing traps, another has no idea of what a trap is or where it came from, and the last is the one who trys to see how much he can get away with.

After looking at the problem from all angles, and analyzing the motives of some of them we will see that in some cases the major cause is lack of proper education in the outdoors. We know that a proper education is a better approach then most other ways.

Several years ago the Pennsylvania Game Commission issued a poster designed to help stop trap stealing. It read, STEALING TRAPS IS DASTARDLY, HELP STOP IT! The purpose was, and still is to educate all persons to understand that stealing traps is undesirable. It would seem however that where education fails, something else should be substituted.

When we consider the so called "bullies" who molest the honest trapper, it appears that education has no effect. A "bully" is the sort of chap who has a greedy disposition, and ignores all educational posters, and anything else which he thinks might be for the better interests of everybody.

The most difficult part of our problem therefore lies in the combating of these "bullies." It is difficult because these chaps go about their dastardly business only at times when the honest trapper is not around. Fear of apprehension has caused them to employ a certain method of stealing

traps. For example, one day they might steal a trap at a certain place. They realize, however, that the trapper might notify the Game Protector, who might be waiting for him, should he make another appearance on the scene of his crime. So, the next day he will appear at another place on the trapline. He knows full well that the Game Protector must catch him in the act of stealing a trap, even though his name may be known to the officer or the trapper.

From time to time the suggestion has been offered that the penalty for molesting or stealing traps could be increased. Would this be the answer? We must remember that these "bullies" are experienced hands at stealing traps, and that they are out to ignore the game law where and when they can. Would an increased penalty stop such violators as these? Or on the other hand, would it not be logical to assume that the penalty would not make any difference, unless they are caught in the act of stealing a trap. In other words, if they get away with it now, wouldn't they also get away with it if the penalty were increased.

The solution lies ahead, and it is safe to say that with more Deputy Game Protectors being appointed each year, the path is becoming brighter. It seems like good sense to think that what we need is not an increased penalty, but more persons who have the authority to enforce the game law, and collect the penalty which we now have.

The accidental catching of dogs in traps is another problem, though of comparatively lesser importance.

Finding a dog in a well-made fox set is a most disgusting experience. The dog owner does not like to have his dog caught in a trap, and the trapper likes it even less to find one in his trap.

In this problem it is not the hunting dog which causes the trouble, but rather the farm land dogs which are left to roam about the country the year round.

It is true of course that hunting dogs sometimes are caught in traps, and this is not the fault of either the hunter or the trapper. In most cases the dog is released, and hunting is resumed, while the trap is left. Sometimes that is. Other times the trap disappears. At any rate, it is very seldom that a hunting dog is found in a trap by the trapper.

In fox trapping there is nothing that a trapper can do in order to avoid catching a stray dog. It is simply that a set which would not catch a dog, also would not catch a fox. In other words, a so called dog proof fox set would be fox proof as well.

Presently it is legal for a trapper to dispose of trapped stray dogs by simply shooting them. However, this does not eliminate the problem, since there are other dogs who will come along.

This then is one of those "questions for solution." We understand the problem. We know the cause. Would it help if we concentrated on the cause, rather then the subject? The need for better understanding on the part of dog owners is apparent. Without this understanding, there is very little if anything that the trapper himself can do to improve the situation.

When the average person finds an animal in a trap somewhere out in the field, it is perhaps only human nature which prompts the urge to kill the animal so that it will not escape until the trapper arrives.

The intentions of these unseen assistants are perfectly all right. However, tell-tale signs left around the set, very often indicate a complete lack of knowledge on how to properly perform the good deed.

To the casual observer, this may not seem important. To the trapper however, it is of considerable concern. It is of special concern to the fox trapper.

It is a well known fact that the one thing which must be avoided at all times near fox traps is fox blood. Not so much as even a pin point dot of fox blood should be near the fox set.

Upon finding a trapped fox in a trap, the average person will instinctively utilize a club or stick of some sort to render the animal lifeless. By the time the feat is accomplished the area will be spattered with fox blood. Not only does this ruin the fox set, but it is also a very inhuman way of killing the animal.

Foxes can and should be killed without drawing even a speck of blood. By using a forked stick the animal may be held down on the ground, while stepping on the animal with your foot. To do this, step on the fox just under, and slightly in back of the right front leg where the heart is located. This generally requires only a few minutes, and is simply a matter of stopping the heart beat. There is no blood, and no unnecessary pain involved.

Foxes very seldom escape from traps, and for this reason it is advisable that no attempt be made to dispose of trapped foxes unless one is qualified to properly perform the act.

It is just another one of those trapline problems.

. . . *The End*

NOTICE ON BOUNTY RATES
PENNSYLVANIA GAME COMMISSION
(Excerpt from Official Minutes, Pennsylvania Game Commission Meeting, January 4, 1951)
RESOLUTION

WHEREAS, After giving due consideration to the present predator population;

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101, of the Game Law, by resolution adopted this 4th day of January, 1951, hereby directs that for the period from June 1, 1951 to May 31, 1952, both inclusive, the bounty payments authorized for the birds and animals enumerated below, if killed in a wild state in any County of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

1. *Gray Fox*—$4.00 for each gray fox.
2. *Red Fox*—$4.00 for each red fox.
3. *Weasel*—$1.00 for each weasel.
4. *Great-horned Owl*—$5.00 for each great-horned owl, adult or fledgling.

BE IT FURTHER RESOLVED, That the foregoing resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the March and April issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

"I hereby certify the above to be a full, true and correct copy of the resolution establishing bounties on certain predators killed in a wild state within the Commonwealth from June 1, 1951 to May 31, 1952, notice of which action is published in accordance with the requirement of law.

Thos. D. Frye,
Executive Director
Pennsylvania Game Commission



Outdoor Kids

By Hal H. Harrison

ALL that Billy and Jane knew about bees was that they sting and that they make honey. That was before they met the Old Beekeeper. A visit with him at his apiary (that's a place where bees at kept) certainly opened their eyes to the wonders of the bee world.

They learned that in each hive there is one colony of bees, all devoted to a single queen. The queen is so jealous of her position as mother of the colony that she kills or drives out any rival queens that enter her hive.

The queen is surrounded by two kinds of bees: workers and drones. Drones are male bees whose one job in life is to mate with a queen. Workers are just what their name suggests. They are the masons, feeders, the cleaners, the nursery keepers, the baby sitters and the providers. Not only do they provide food for the queen and her offsprings by gathering nectar and pollen from the flowers, but the workers also feed the drones, which are not capable of searching for their own food.

The Old Beekeeper told the children that in the average bee hive, there will be about thirty thousand worker bees and between five hundred and two thousand drones. Drones, he said, are larger than worker bees.

Billy and Jane discovered that the life of a queen bee is not as pleasant as they thought the life of a queen should be. She is doomed to a life of darkness within the hive. Except for her mating flight high in the sky with a swarm of drones, or when she leaves the hive with a swarm of workers and drones to start a new colony, her life is spent laying eggs, eggs, eggs, and more eggs. She may lay fifteen hundred to two thousand eggs a day. And all summer long she continues to lay eggs inside six-sided wax cells made for this purpose by the workers. In large hives, at the height

of the summer season, forty thousand cells may contain developing eggs at the same time.

The queen controls the kind of eggs she will lay . . . fertile eggs for workers or infertile eggs for drones. The wax cells made by the workers to receive these eggs are of two sizes. Most of them are for the eggs that will hatch into workers. Larger ones are made for drones.

Bee eggs hatch in about three days and the tiny grub is fed "royal jelly," honey and pollen by nursemaid workers. Royal jelly is a thick white cream, a special food made in the bodies of the workers. All babies in the hive are fed for at least two days on royal jelly. After that they are fed pollen and honey. But when a queen is to be created, the hatchlings from fertile eggs are fed royal jelly constantly until they spin their cocoons. When these royal babies hatch from their cocoons just 16 days after the eggs were laid, they are queens.

Just before the new queen hatches, the old mother queen usually leaves the hive with her swarm to start a new colony, leaving the old hive to the first hatched queen. The first queen out of its cocoon, quickly destroys all other queens before they hatch. She destroys them with her stinger.

"Is it true that bees die when they sting you?" Jane asked the Old Beekeeper.

"All but the queen," he answered. "You see, a queen bee stings only a queen. Her stinger is smooth. Drones have no stingers. So you see, it's only the worker bee that can sting children like you. The end of a worker's stinger is barbed and once it sticks it in your flesh, it can't get it out. It's something like a fish hook. As it struggles to get its stinger out, the bee tears off the entire end of its body. And that's what causes it to die."

The Old Beekeeper told the children that in winter the worker bees and their queen remain active within the hive. In the autumn, the drones are driven off to die. Because they are moving constantly, the bees within the swarm maintain a temperature much higher than the temperature outside. Thus they keep from freezing. During the winter, they feed on honey stored within the wax cells.

NEW BOY'S MAGAZINE RELEASED

Just released and available at all newstands is a new and lively quarterly magazine called MARK TRAIL, a publication written specifically for boys in the 9-to-17 age group, the Wildlife Management Institute reports.

The scope of the magazine, edited by Ed Dodd, creator of the Mark Trail comic strip, is extremely broad. The first edition covers everything from the life history of the mole through movie reviews and a pictorial tour through an airplane factory. There are similar articles on Forest Service smoke jumpers, illustrated instructions for building a log cabin, and such high-adventure material as an impromptu wrestling match with a wolf. Other articles include a conducted tour of a rifle factory and instructions for skiing.

The theme, often repeated throughout, in one way or another, is "What Makes America Great?" The publishers hope to show their young readers the answers to this question in this and succeeding issues. In addition to Dodd, whose handsome and resourceful hero appears as an instructor in outdoor living on several pages of the new publication, MARK TRAIL is backed by Ted Kesting, editor of SPORTS AFIELD, and Jack Cornelius, executive vice president of the advertising agency, BBDO.

Newstand prices are 25 cents a copy and annual subscriptions, available from 1109 Northwestern Bank Building, Minneapolis 2, Minnesota, cost $1.00 a year.

The youngsters should go for this in a big way.

It's Time to Get Up

By Grace O. Beach

MOTHER nature stretches, stirs about restlessly, yawns luxuriantly and then fully awake throws back the covers of her winter bed. "My goodness," says she, "It's time to get up."

Refreshed after her long winter's nap she energetically moves about her household tasks. After kindling the fire in "old Sol," the reliable old pot-bellied heater to warm up her house, she takes down her wind broom from the hook and sweeps and dusts away the dirt. That task done she turns on the hose and sprays and showers every thing until they gleam, spic and span.

Then Mother Nature turns her attention to her family and softly moves about among them, gently prodding, coaxing and calling her children from their beds.

The earth heaves as the little seeds full of pent-up energy burst out of their winter pajamas and push and pummel their way toward the sunlight.

The little buds crawl out of their cozy sleeping bags and coyly shake out the folds of their skirts in readiness for their spring debut.

Bruin rubs his sleepy eyes and lumbers to his feet. Fully awake and very hungry he dashes to the breakfast table with hair uncombed to bolt down his food and get out to play.

Doesn't that strike a familiar note? Mother Nature as a home maker has tasks similar to every home maker. Her children are much like ours. Some boisterous and playful, some awkward and clumsy, some graceful and clever or shy and retiring. Many of their ways are like those of humans.

For instance the young bear cubs, born in hibernation, will soon be tumbling about, wrestling, rolling, climbing trees, full of vigor and mischief. Young rabbits will be playing tag and hop-skotch. Squirrels will be frisking about jumping and swinging from branch to branch. Little wildlife children will wade through mud puddles in apparent enjoyment, roll in the dirt and go for a dip in the old swimming hole and just plain have fun. There just like any normal youngster in your neighborhood.

Spring always brings forth budding romances. Young people stroll through parks, along city streets and country lanes. Even Dad and Mom surreptitiously hold hands when no one's looking. So too, wildlife children have their budding romances and some quite dazzling and showy courtships precede the nuptials. The male, strutting his prowess and physical attraction with that "man of the world" air as he does an all-out selling job for his chosen one. The female, coyly seeming to be uninterested, but ready with that come hither look and drop the handkerchief act with true feminine instinct for perfect time attuned to wedding bells.

Then there is a scurry for home sites in just the proper location and right setting, followed by the business of homemaking and raising families.





There is a great stir and bustle going on everywhere. Soft greens appear to put a new look of life to the bleak winter landscape. Yellow daffodils nod their yellow curls as they dance and sway in the breeze. Birds warble and sing with joy at the awakening. Spring is here. Life is a fascinating and interesting story.

Yes, April and Spring are here again. Weary and satiated with a "good old fashioned winter" it is most welcome.

Youth Is On The March

"Conservation" has been chosen as the theme for the activities of the Boy Scouts of America for 1951. The slogan of their crusade is "Strengthen the Arm of Liberty." When you put the two together you have "Conservation to Strengthen the Arm of Liberty." All over the Nation during 1951 the Boy Scouts and their leaders will be working on that theme. What a wonderful slogan for such a youth organization. And how very timely and important it is.

For sometime now the youth of America have been showing an ever increasing interest in conservation activities. 4-H Clubs have sprung up all over the country and the results from their activities are miraculous. Interest in conservation clubs has increased greatly and there are many more applicants than facilities and available leaders can manage.

The Boy Scouts and Girl Scouts have always had a conservation program as part of their scout training. Thousands of our youth have been taught the fundamentals of conservation and what it means through this organization. Outdoors and youth are synonymous. They love the outdoor life. Glowing with health and bubbling over with vitality they want to be outdoors, enjoying the fresh air and sunshine. Snow, rain nor wind halters them one bit; they take it all in their stride.

They like all forms of outdoor sports, play hard and are so adept they put many an oldster to shame. A lad with a gun or fishing rod quite frequently walks away with the prize trophies, much to the experienced sportsman's wonder and surprise.

It is extremely important to the future well being of our youth that they take a hand in conservation. That they learn now the importance of conserving our present supply of natural resources and rebuilding depleted supplies that are renewable.

These youth are the citizens and sportsmen of tomorrow. It is their future and their heritage for which they reach out and to which they must hold with a firm grasp. The

soil from which they will derive their food; their future water supply; the minerals and metals, and forests to supply their needs, as well as wildlife and the outdoor recreational sports we have all enjoyed.

We, their forebears, have not understood. We were borne with a gold spoon in our mouth and have wasted and squandered our fortune. Through our lack of foresight we have failed our children in holding dear that which makes life possible. Our account books as guardians of their inheritance do not balance.

Youth's interest in conservation is good, and well founded, and the training they get now will stand them in good stead in their fight for existence.

Sportsmen and parents can be of great assistance to their local scout organizations. Everyone can join hands in making it a worthwhile theme. It is not too late to undo some of the damage wrought. We can give financial aid, equipment, visual aids, leadership, literature and many other forms of help to our neighborhood scout troops.

There are many things the Scouts can do, right in their own back yards. It need not be on a big scale, but working together a real job can be done all over our country.

One of the important jobs to be done is to stop erosion, along the highways, in the streams, fields and woods. A scout troop could plant a section of the highway near their home and beautify it at the same time holding the precious soil. Silt catchers can be built on the little streams in the area and their banks can be planted with climbing vines to cover scars that leave the earth open to the ravages of wind and rain. Honeysuckle can be planted to cover ugly ash dumps and refuge heaps that detract from the beauty of the landscape.

Bird houses and feeding stations can be built and placed throughout the area. Feeding programs can be carried on for wildlife.

A roadside rest near the edge of town, where a weary traveler can rest and find refreshment and perhaps enjoy an attractive view of the town or surrounding area. Constructed and maintained by the local Scout Unit, and with a plaque bearing "Courtesy of Scout Troop No. o, with the name of the town," would send the traveler on his way forever gratified.

Small food plots can be planted for wildlife on neglected grounds, or vines and trees planted on an old strip mining scar. None of these projects need be expensive. Usually there is money available for such things if one has the courage and ambition to go after it.

Look over your neighborhood. What can be done to make it a better place to live in? To conserve your natural resources or do a job of replenishing some of them?

No doubt there is idle land that is tax delinquent near by. That land could be earning the community dollars and still do a job in saving the soil, and water and provide cover for wildlife. It could be turned into a plot for planting Christmas trees which could be harvested yearly for a good return.

These are only a few of the things that can be done by any troop in any area as they carry out their conservation theme. Every sportsmen's organization, civic organization, school, business group or individual can get into the picture and lend their help and support no matter how small that help may be.

It need not be held to scout troops alone. Your local 4 H Clubs as conservation clubs can do the same job.

Young and old alike we can take up the theme conservation, and we can all strengthen the arm of Liberty.

. . . *The End*



Somerset County Federation

Somerset County's first county-wide meeting of a new Federation was attended by 52 members from 15 member clubs in January. President Karl Hare presided. The Jenner Community Sportsmen's Club made application for membership and were heartily accepted into the organization. Topics discussed included the lowering of the water level on the Yough Dam, posting of hunting lands by individual clubs, and a donation to the Children's Aid fund. Election of officers for 1951 concluded the meeting with Karl Hare, Somerset, named president; N. C. Shultz, Vice-President; Owen Horner, Boswell, Secretary-treasurer; Joe Critchfield, Federation delegate; Ed Glancy, Johnstown, Alternate Delegate; and Emory Fulton, Stoystown, Ponds and Lakes Committee. The next meeting of the group will be held at Garrett in April.

Juniata County Sportsmen's Association

The Juniata County Sportsmen's Association held its Annual Smoker in the Mifflintown Fire Hall on February 14th with an attendance of 223. Featured entertainment included music by local orchestra and musicians and a cooked sauer kraut supper concocted by member Howard Mumford. The Association and its members received and released 40 dozen Missouri rabbits in January throughout the county. Newly elected officers include president, George Knisley, Vice president, George Sheets, and Darwin Zook, Secretary-treasurer E. B. Fletcher, Recording Secretary, Luther Houtz, and Chaplain, Charles Ranner, all of Mifflintown.

Perkiomen Valley Sportsmen's Association

The Perkiomen Valley Sportsmen's Association is continuing a fine program of stray dog and cat control under the leadership of committee chairman, John C. Markley. This progressive Collegeville group bases its control program on appeals to area residents to keep their dogs and cats under control during the game breeding season from April to August. Hundreds of forceful placards are posted in their area of Montgomery County and in addition the Association runs paid advertising in local newspapers. They point out that it is not only unlawful, but unkind and cruel to allow pet dogs and cats to roam at large through the open fields during this nesting period. The campaign is not designed to promiscuously kill off roaming or stray cats or dogs, but to encourage owners to keep their dogs on a leash and the cats in or about the home.

IN MEMORIAM

James C. "Jimmie" Hodge, Secretary of the North Borough Sportsmen's Association, Pittsburgh, died suddenly on January 31, 1951. He was born in 1891 in Glascow, Scotland and came to Pittsburgh as a boy of 16. In 1936 Jimmie joined the North Boroughs Sportsman's Association and in 1943 accepted the office of secretary in which he served until his untimely death. He handled the business of the Association in a superb manner and his presence, humor and integrity will be missed by many sportsmen but will never be forgotten.

Philadelphia Sharpshooters Club

Game Protector Dean Lesnett, Huntingdon, reports: "On August 25 I visited the land owned by the Harrisburg and Philadelphia Sharpshooters Club in Huntingdon County. I was very much pleased to see the effort that these sportsmen are putting forth to increase food and cover for all types of game. On this property of over 200 acres they have four buckwheat fields, several corn fields and some grass plots. These fields are distributed about the wooded area. If every sportsmen's club that owns land would spend effort and money as this organization has done to produce food and cover for wildlife, then game would thrive and multiply in direct ratio to the habitat improvements made.

Kimberton Fish & Game Association

The Kimberton Fish and Game Association has instituted a training program in firearms handling and marksmanship for the benefit of the junior sportsmen of their community. Each week the club sponsors a two-hour instruction period in the Phoenixville Armory indoor range. With club members cooperating, instruction is given by Ralph Brown, Chairman of the Rifle Committee and his assistant, Russell Farrell. According to club president, Irvin Harple, the club also has under consideration a plan to provide rifles for the project so that each boy would have a similar rifle and the firing rotation could be speeded up.

Phoenixville Boy Scouts and junior sportsmen receiving rifle instruction under the sponsorship of the Kimberton Fish and Game Association. Scout Frank Mrazik, on the firing line, is getting a few tips on correct position and sighting from Ralph Brown, left, chairman of the club's rifle committee, while Irvin Harple, association president, and Scout Dick Spieth look on.

Photo Courtesy Phoenixville Daily Republican





The Quail

By John F. Blair

OF ALL the species of game in Pennsylvania, the one that has always been the most popular with the farmer is the Bobwhite Quail. If you bring up the subject of game while talking to a group of farmers, they always want to know what happened to the quail. They are all willing and anxious to do anything they can to help bring them back. Many of them would willingly set aside certain areas on their land and plant it to quail food if they knew what to plant and what to do to give this game little bird a better chance of survival. He is a quiet, little, unassuming fellow that never does any damage to anyone and lives on the bugs and worms and weed seeds that the farmer has to contend with. I have never seen a covey flushed from a field of standing grain but they love to feed in the stubble after the grain has been cut.

I have never seen any wild game that interested me more than a group of small quail feeding with their mother. The adult quail are very shy and are seldom seen unless they are flushed, or when the cockbird stands on a fence post during the summer and gives with the now-about-forgotten "bobwhite, bob-bobwhite," as the small quail scurry through the stubble. They are like living shadows, so quickly do they move at times as they chase down an insect; and then at time, standing so quiet that if you take your eyes off them for a second, you have trouble finding them again, so completely does their protective plumage blend with the vegetation and sunlight and shadows. As they feed, they sometimes keep up a continuous chatter back and forth. More than once as a boy I remember trying to find one of the little fellows after they had been scattered by a mowing machine. The mother bird would flush ahead of the machine, and you would see darting brown shadows as the little ones concealed themselves. I have stood quietly at the spot where they were seen for many minutes, trying to find one with my eyes, and afraid to move for fear of stepping on one. You will never seen them unless you can stand still long enough for the mother to be satisfied that no harm is coming to her babies, and then she will slip quietly back to within 20 or 30 feet of the little fellows, calling them in. Sometimes from within inches of your feet, a tiny shadow will dart out in the direction of the clucking hen, and you would swear it had not been there.

Up until the winter of 1935-36, we had a good population of quail in most of the farming sections of Pennsylvania. One night in November, 1935 we had about a two-foot fall of snow, which drifted and covered up many coveys of quail as they roosted. Quail roost in a tight little circle with their tails toward the center of the circle. Many coveys were found dead in this position when spring opened up the ground. This snow laid on the ground for several weeks, making it hard for what quail that did get out from under the snow to find enough food and grit to survive. It has been estimated by some that only about 1% of the original quail population sur-

vived that winter. They have never made a comeback to what they were. Last fall (1950) we had reports that indicated that the quail population was the highest it had been since 1935. This has been a hard winter on quail and how much damage has been done remains to be seen.

There have been many answers given as to why the quail population has not bounced back more rapidly since 1935. Of one thing we are sure, the breeding stock in the spring of 1936 was very low. Some believe that heavy hunting has held down the quail. Certainly that has helped. Many hunters, knowing the alarming scarcity of breeding stock have not killed any since 1935. In one small section of Fayette County, where we had stocked quail, and they were making rapid increases, several hundred quail were killed. It is hard to believe that any hunter would be so short-sighted as to wilfully cut down this breeding stock just when it showed signs of increase. Some believe that the definite change in farming practices has a lot to do with holding back the quail. Others, that the physical make-up of the quail has so deteriorated that it cannot stand the winters. However, the line of reasoning that rings the bell in my mind is that you can't raise a bumper crop of small game and predators both on the same area. It is hard to make most people realize how our predators have increased over the past few years by leaps and bounds. Here are some actual figures. I believe they are typical of Pennsylvania. During the period October 1, 1949, to January 31, 1950, W. S. Pyle, who by the way sets the prettiest deadfall I have ever seen, on a 400-acre tract in Westmoreland county, F.G.P. No. 131, caught the following predators: 149 opossum, 108 skunk, 24 weasel, 3 house cats, 13 crows, and 9 gray fox. This is not an exaggeration; it is actual fact.

What chance has the few lonely quail that survive the winter to reproduce amid an army of predators like this, that feed 365 days or nights a year. The winters we cannot control. The predator we can and the army of hunters is the only body of men with the man hours available for the task. If a man is physically able to hunt game, it stands to reason he is also able to kill some predators if he is interested. It all figures out to just one bet. If the hunter is not willing to help protect his small game from the predator, it is only a matter of time until he is not going to have it to protect. And, by the way, this is not George I am writing about, it is YOU.

. . . *The End*

BICOLOR GIVES RELIABLE FOOD SUPPLY

When it comes to furnishing quail with a year-around food supply, few plants excel bicolor lespedeza, the Wildlife Management Institute reports.

Studies to determine seasonal availability of important quail foods, conducted by the Alabama Cooperative Wildlife Research Unit, under the leadership of Dr. Arnold Haugen, put the useful lespedeza way out in front. Periodically, several one-square-foot samples of ground litter were taken from beneath the plants, dried, and the seed was carefully separated from the debris. During late winter, the critical period for quail, bicolor seed was from two to three times more abundant than that of partridge peas, and at no time did the supply drop below 350 pounds per acre. Partridge pea, the closest contender as the ideal quail food-patch plant, was found to supply approximately 140 pounds of seed to the acre in March. The measure of a wildlife food plant, aside from its palatability and nutritional value to species under management, is the quantity of food available during all seasons of the year.



Quartering

By Herbert Kendrick

IN the field of outdoor sports there can rarely be a more beautiful and thrilling scene than the well trained bird dog covering a wide area, responding to the whistle and hand signals of his master. The fast, energetic, rhythmic gait; the high head, high merry tail, and sensible search of game makes a magnificent picture, surpassed only by the superlative point on game.

The finished gun dog is not a product of luck, and his excellent quartering and handling abilities are not attained by chance nor breeding. Almost every successful dog in the field which has earned the merit of perfection has been taught and worked from puppyhood. Trainers deserve the highest respect for their accomplishments in giving us modern methods of training our working pals in the field.

The wise trainer gives his young prospect, at an early age, a thorough yard education, and before his first birthday, the pup is allowed complete freedom in the field. He must become familiar with hunting environment, enjoy independence, and be allowed to search energetically. It pays dividends to permit flushing and chasing of all the life he finds in the field until a keen zest for hunting is firmly implanted into his young heart. His freedom will prevent slowness, pottering, and false pointing.

Do not allow his unrestricted pleasures to go too far because the lessons of obedience must follow to make him a finished product. Review previous yard training such as coming to call, stopping at command, and retrieving, while supplementing vocal commands with the whistle and hand signals. A single, sharp, short blast is to signify the command, "Whoa." Use a lead on the pupil, walk with him around the yard, and as you give him the sharp blast, instantly force him to stop. Do not allow him to move until you give him two toots which sends him on his way. Use the signals that suit you, however, when training has started do not change your system. It takes a great deal of practice but it is amazing how quickly a dog will learn because he usually loves to please his master. Always remember to reward him with an affectionate pat or tidbit when he is correct.

Most trainers use a long blast to signal "come in"; two blasts to go out, and a short blast to stop the dog, getting his attention so you can use a hand signal to indicate desired direction.

Hunting under control is the first step of field education and if the whistle signals are perfected, the next step of "quartering" can be handled with a minimum of confusion. The dog is expected to range in a pendulum fashion in front of the gunner, exploring cover a reasonable distance on both sides. Pointing dogs are permitted a wider range than the flushing breeds because the flusher must be kept within gun range.

Naturally the young hopefuls will range in a different manner, as some will be fast bold searchers while others will be slow and timid. At times it is desirable to discard the latter and concentrate on the fast independent ones. The reason is

simple—it is far easier to curb the fast and extremely difficult to speed up the phlegmatic.

Take the pupil into a long large field, walk up the center, keeping the dog ahead, while using hand signals to indicate you want him to search both sides. Never allow him to fall behind, nor cover the same area twice. If he goes too far and wild, use a long check cord and force the proper quartering. Refrain from too much use of the cord for you may develop a useless one who hunts around your heels.

Make the lessons short and never allow the dog to become too tired. If he fails to turn after the hand signal command, him to stop; go to him and turn him bodily in the correct direction and send him on his way. Exercise utmost patience and do not allow him to get by with a faulty performance.

Discourage the dog's covering bare ground, send him into birdy places, and never allow loafing or pottering even in the best of cover. Always encourage lively and energetic ground work.

A great help in direction for the dog is the hunter's moving in the same way. Most dogs prefer to stay in sight of the master. Others must be taught to quickly respond to the whistle in order to make the hunt successful.

Fortunately many dogs possess a natural ability to adapt their range to the cover they hunt. In the wide quail fields they go wide and far, then in the grouse woods they slow up and hunt at closer range. The handler who loves his canine companion and enjoys the respect of the animal will have little trouble keeping him within range because the dog naturally wants to feel certain he will not become lost from his master.

Some gunners completely ruin their dogs and the sport of gunning by constantly over-handling. Hacking, unnecessary commands, undue fretting, and constant coaching, only lead to confusion, which has no place in the field.

Allow your dog to use his experience, his nose, and his own initiative as far as possible and you will be amazed at the results.

Train a dog in a simple manner, exercising judgment at all times, and rewards will be great. The greatest problem is understanding. Once you find a way to make your pupil understand the job you want completed, he will burst his heart and lungs to please you. Apply punishment sparingly and only when you are certain the dog understands the reasons.

Spend as much time as possible in the field because there is no satisfactory substitute for actual experience.



Champion Gretchen v. Fuehrerheim, a German Shorthaired Pointer owned by Harold G. Fuehrer, Carlisle, is a typical specimen of this breed. Although not as well known as other sporting breeds, the German Shorthair is growing in popularity and have gained the reputation of being the All-purpose dog since their introduction into this country from Germany in 1918.

Brush is Tough on Bullet's Flight

By Ed Shearer

DURING open seasons the local sporting goods store in game country becomes the clearing house for all information—from weather conditions to who got 'em and why. Here also are aired all the trials and tribulations of those who didn't get 'em and why. That is, if the truth will bear the telling.

This year the songs of triumph were left a country mile behind the wails of the contingent of failures. For this I believe the weather was largely responsible. Small game season weather was warm to hot, making game hard to find. And big game season was really rugged. What with rain, fog, snow and ice the weatherman dished out as poor a set of shooting conditions as I've seen in many years of hunting.

One much debated question emerged from these conditions, a question of importance to Pennsylvania and all eastern deer hunters. Here is a sample:

"There he stood about 50 yards out in a clump of aspens. I was restin' the old 300 Savage over a stump. Talk about easy pickin's! I held her square on the buck's shoulder and squeezed her off. Man! You ought'a seen him got out'a there. It was like shootin' at a streak of lightning. Guess he's goin' yet. I went over to the spot where he stood and found where the bullet hit a piece of brush this side of him shoulder high. Where that slug went, I dunno, but it sure didn't travel where I sent it. From now on I'll use the "thirty-five!" That'll shoot through a sapling and knock 'em for good."



Through the years I have run across this occurrence in the eastern forests so often that the matter becomes of top importance to the hunter. The old hand is not bothered too much with this problem because he has learned to unconsciously look for open places. There is no doubt, however, that one and all alike are forced to take a shot now and then where we are at the mercy of these lurking devils of brush that can change the vision of a venison steak into a poignant memory in a split-second. I once had this brought home to me rather emphatically.

I was hunting deer alone, slipping down a steep slope. The opposite side was covered thickly with grape vines. There had been shooting ahead of me in the main hollow so I was catfooting along with my ears working overtime. Suddenly I heard some deer running my way on the opposite side of the hollow. I dropped down to a sitting position for a steady hold, shoved off the safety of the 250 Savage, and cleared the decks for action which came pronto. Three does came sailing out along the hillside with a beautiful eight point buck bringing up the rear. Just opposite me they came to a dead stop and stood listening. The buck, head up, ears cocked forward, nostrils flaring, certainly was a picture. It was a perfect broadside shot at about 50 yards. When I looked through the sights, the buck was blotted out. Coming through the thick brush on the hillside a small twig had penetrated the rear peep and broke off. For a brief instant I debated whether to let drive a la shotgun or to clear the stoppage. Just as I cleared the

peep, the buck caught the motion and went flitting through the grape vines. At the second shot he went down hard, rolling over but bouncing up again like a rubber ball. Twice more I shot before he went out of sight. It took me half a day to finish that job. On skinning him out I found a broken front shoulder with no deeper penetration. The 87 grain bullet had already started to expand when it struck the shoulder. Further back in the ribs were fragments that merely penetrated the skin doing no damage. This bullet had completely gone to pieces before striking the deer.

Pondering this brush business, Stanley Gardner, International Rifle Team member and keen hunter of Renovo, and I set out to learn just what effect brush has on bullets. In order to determine what calibers are best for "brush shooting," we assembled the following guns and bullet weights for the test.

A 30-06 Springfield Sporter with 220 grain round-nosed and 180 grain Western open-point bullets. A 300 Savage with 150 grain bullets with pointed, soft noses. A 7 mm. Niedner Springfield with 139 grain and 175 grain pointed bullets. A 220 Swift with 48 grain and 55 grain pointed, soft-nosed bullets. A 270 Winchester with 130 grain pointed bullets. A 33 Winchester with flat point, soft-nosed bullets of 200 grains. A 35 Remington with round-nosed 200 grain bullets. A 405 Winchester with 300 grain round-nosed, soft point bullets. And just to make it complete a friend dug up a 45/70 Springfield single shot with 7 cartridges loaded with black powder and 500 grain bullets of lead. Thus, we had a fair selection of calibers and bullet weights, with velocities running from about 1500 feet per second to 4120 feet per second. We had pointed, soft-nosed, round and plain lead bullets.

We used a life-sized deer target which was pasted on a piece of beaver board five by seven feet which we believed could cover a badly deflected shot. The target had a six inch aiming bull on the shoulder and we placed the target behind a dense thicket. We could just make out the black bull. Stepping off 50 long paces, we were ready to go—for better or worse. The results of five shot strings are as follows:

The 220 Swift had one hit on the deer with both the 48 grain and 55 grain bullets. Some jacket fragments hit the back board. Velocity—4120 ft. sec.

The 270 Winchester with 130 grain bullet (velocity 3140 ft. sec.) showed two hits on the deer, 2 hits on the backboard and one miss. Some tilt was apparent on the bullet prints. The 7 mm. Sporter with 139 grain bullet (velocity 3140 ft. sec.) had two hits, two on the backboard and one miss. The 175 grain bullet showed three hits on deer with two on the backboard and one a close miss. Velocity 2490 ft. sec.

The 300 Savage 150 grain bullet (velocity 2700 ft. sec.) had three hits, two misses with bullet tilt apparent. The 30-06 Springfield Sporter with 180 grain Western open point made three hits on the backboard, one in fragments, and two hits on the deer. The 220 grain bullet showed five hits on the deer with some of them tilting. The 33 Winchester gave us five hits on target with two of them tilting. The 35 Remington gave four hits and one close miss. There was tilt on one and one key-holed. These with the 200 grain bullet (velocity 2210 ft. sec.) The 405 Winchester gave us five hits on the deer with the 300 grain, round-nosed bullet (velocity 2260 ft. sec.). Last came the old coal burner 45/70 Springfield single shot with 500 grain lead bullet. I believe the velocity was 1300 ft. sec. We had five hits on the deer with three of them in the aiming bullseye. None showed any appreciable amount of tilt.

So there we have the performance of a fair variety of weights and velocities from the last word to the old timer. It looks from this limited test that what seems to give the best performance as a brush-bucker is a heavy weight bullet with round nose traveling at low velocity. The lighter the bullet, the more pointed the shape, and the higher the velocity, the poorer the performance in brush.

Other factors being equal a bullet traveling at 2,000 feet per second stands a better chance of landing on a buck in the brush than the same bullet traveling at 2500 ft. sec. Also a round nosed bullet has quite a bit more chance of landing than a pointed one.

One thing stands out like a sore thumb The guy who pins his faith on the ultra-velocity super-duper for meat when he's shooting through brush is going to have a cold skillet for supper Although some are better than others any of our modern guns are likely to produce misses under these conditions. There are two other factors which should be considered. Bullets that are key-holing are starting to lose their accuracy fact. If the deer in this test had been moved back 50 more yards from the thicket, the results would have been considerably worse. Secondly, when brush is frozen, it greatly increases its deflecting qualities as well as decreases the penetration of the bullet. I had a one and one-half inch twig that was frozen stop a 33 Winchester slug cold with a buck on the other side. I believe these facts are responsible for most old timers using a different method in shooting running deer. They hold in an open space and pull when the deer jump into their sights.

. . . *The End*

WEAPONS USED IN 1950 SEASONS FOR BAGGING DEER AND BEAR

Hunters often wonder what percent of large game is brought down through the use of weapons other than rifles. A break-down of reports of deer and bears officially reported killed in Pennsylvania during the 1950 season provides some interesting information.

Of the 54,817 deer killed by hunters last year, 5811 were felled by pumpkin balls or rifled slugs fired from shotguns, 5 were slain by bow hunters and one was taken through the use of a high caliber revolver.

Of the 354 legal bears reported slain in the 1950 season, 15 were brought down through the use of the shotgun, the remainder by the rifle.

RETURN THOSE REPORT CARDS

After the past season, many duck hunters received franked return postcards from the regional offices of the U. S. Fish and Wildlife Service. This marks a new experiment to obtain more accurate information on the waterfowl harvest in which the individual sportsman holds the key, according to the Wildlife Management Institute.

The card simply asks for the number of days the hunter was afield, the number of ducks, geese, and coots bagged, and the state in which hunting was done. Far better returns are expected from this method than from the report cards published in the magazines and newspapers in past years. Each of the present card recipients has been contacted in the field by a federal game management agent, and the new procedure requires even less effort. It is, however, a simple and human matter to delay filling out a report of this kind and then to forget it completely. Simple though the information may seem, the data compiled from the returns is extremely important to those entrusted with the management of the waterfowl.

If you received a card, take the few seconds needed to fill in the blanks and mail it. You will help yourself to better hunting if you do.



Along the Maine Line

Dear Sir:

I feel the time has arrived in Pennsylvania for a one-deer season without differention between bucks and does.

The State of Maine has been most successful in this connection and has continued to harvest bucks and does year after year and now boasts of one of the healthiest whitetail deer herds in the country. The season last fall was October 21st to November 30th and the length of the season spreads the hunting and reduces shooting accidents.

Twenty-five years ago Maine's annual bag was 8,379. For the past three years it has averaged over 35,000 —in a State that is only two-thirds as big as Pennsylvania. Of course, the 1940 census of Maine was 847,226 while Pennsylvania's population was 9,900,180. In 1925 a 200-pound deer was a rarity in Maine but I understand that last year weighing stations operated by the Fish and Game Commission checked in 837 deer over 200 pounds and 55 that topped 300 pounds.

Compare the above situation with some of the wretched deer bagged in Pennsylvania and New Jersey and the continual controversy between hunters and State officials.

Sincerely,
Col. Nicholas Biddle,
Bethayres,
Member, Pennsylvania Game Commission

On Running the Show

Dear Sir:

This is in answer to the article by Mr. Huskin published in the January "Slants and Angles" column. The job I used to have took me into most counties in Pennsylvania. My customers were sportsmen. So may I present my "slant," which greatly differs from the one published.

In the first place I don't agree with letting the Commission run the show. Who needs who most—the Commission, the hunter or vice versa? Without the licenses the Commission would fold. From the Federal Government through to the civic, the rights of the individual are being taken away or abused. That is, if they ever had any. Cliques and pressure groups are always telling the little fellow what to do. When organizations are given a free hand or too much authority, they abuse it. Only human nature. Don't get me wrong—the Commission has and is doing a good job. But since we need each other, let's cooperate.

I am of the opinion a blanket order for the state does not work successfully. If so, why do they stagger seasons and close some counties? If some counties have ample food and few complaints of crop damage, why not honor the petitions. It is my belief the Commission presented a biased story. At least the article in the Special September issue. Could be I was prejudiced as I read it. But if deer starved in 1946, why use these photos to further present your case. (Ed. Note: Photos used in the September issue were taken in March, 1950.)

As for the fine, that is far amiss. If the conditions are such in northern counties that they want the herd reduced, why not? Why keep the petitioners out. They should welcome them. But when you mention fawns that is a different story. I have been of the opinion for some time there should be a ban on fawn

deer. As the cub law for bear. The methods and know-how as you say, I guess set the Commission for the job. Science at the hands of man can be destructive. You have the secret weapon when you mentioned Mother Nature. In the past she has done a good job caring for her wild folk. Anyway who can come anywhere near giving an accurate estimate of the deer herd? Surely our problem must be small as to the feed they give animal herds in some western states.

We have national parks, state lands, game reserves, propagation schedules, educational programs, laws of enforcement, an effective Commission who takes much of the credit for the abundance of game. All this for the protection of game. Then suddenly we have too much and want a few days of slaughter, undoing what it took years to accomplish. If we want our sons and grandsons to enjoy the privileges, let us look to the future. Let us use what we now have wisely. God and Nature may never again be so kind to us. I suggest an intensive study, a five-year plan. The fourteen counties closed as against those that are open. See who yells murder first.

Sincerely,
G. W. Hopple,
York.

Something Rotten In Pennsylvania

Dear Sir:

There is one dirty rotten racket going on all over the country and especially here in Pennsylvania that not many sportsmen are aware of. That is the dog stealing or dog-knapping racket. It is a million dollar business that in some way should be stamped out.

I have been a victim of this rotten business three times since 1946. Last year I lost a five-year-old male Irish setter, all red. The dog has never been returned, despite the fact that it carried a license and was widely publicized in the press. I did learn that the dog was put in a car and carried from the vicinity where I was hunting by two hunters who answered the description of men seen in a straw field where I last saw my dog.

Sincerely,
W. H. M.
Philadelphia.

Crow Calling Foxes

Dear Sir:

While calling crows to the gun I have at the same time lured gray foxes to within a few yards of me on three different occasions. Two of these I shot; the third I spared because it was in the territory of a fox hunting club. How many other foxes have come to my crow call and not been noticed among the bushes I can only conjecture, but I believe the squawk which completely fools the crow likewise completely fools the fox, just as it does the Cooper's hawk. All three foxes acted alike. They came through cover as if stalking me; then made a rush for my hiding place.

The fox that I allowed to escape charged into the crow decoys that I had set up on bare ground and was seizing one of them when I surprised him with such a yell that he dashed away. Maybe it isn't easy to call crows with one eye focused in the air and one on the ground, but if you know crow talk and want an occasional fox, it's worthwhile.

Sincerely,
Joseph W. Lippincott,
Bethayres, Montgomery County.



PGC Photo by Batcheler

Distinguished guests and principal speakers at the first banquet and organizational meeting of the new Pennsylvania Outdoor Writers Association held in Harrisburg on February 17 were, left to right, Mike Hudoba, national secretary and Washington editor for Sports Afield magazine; state president Seth Myers; J. Hammond Brown, national president; and Judge E. Budd Marter, national treasurer of Beverly, New Jersey.

Pennsylvania Outdoor Writers Organize To Promote Conservation

One of the biggest strides ever taken in behalf of conservation in Pennsylvania was made with little fanfare the evening of February 17 when Keystone State members of the Outdoor Writers Association of America met in Harrisburg to form a state chapter. Many Pennsylvanian's who write and speak on hunting, fishing and allied outdoor activities expressed a common desire to promote all phases of conservation, not just those of hunting and fishing.

Following a joint, dinner meeting with representatives from the Federation of Sportsmen's Clubs and officials of state conservation agencies, the Pennsylvania writers went into executive session with about 50 present. Following the election of a panel of officers, the new POWA adopted a constitution and by-laws. Those elected to office for 1951 are: President, Seth L. Myers, Sharon; first vice-president, Charles K. Fox of Harrisburg; second vice-president, Jack Richards of Pottsville; treasurer, Howard W. Shilling of Huntingdon; Board of Directors, Charles M. Nehf, Allentown; Dr. A. R. Grove, State College; Bill Walsh, Erie; Hal Harrison, Pittsburgh; Bill Evermann, Drexel Hill; and Louis Stevenson, Wellsboro.

National officers of the OWAA present to help give the new state chapter a good start were its president, J. Hammond Brown of Baltimore; vice-president Larry Cook of Cleveland, Ohio; treasurer E. Budd Marter III, of Beverly, New Jersey; secretary Michael Hudoba of Washington; and national director Stewart Kennard of Baltimore.

PENNSYLVANIA GAME COMMISSION

LEGAL BIG GAME KILL

(Based on Tabulation of Game-Kill Reports)

Counties	Deer—Legal Antlered 1949	Deer—Legal Antlered 1950	Deer—Legal Antlerless 1949	Deer—Legal Antlerless 1950	Bears 1949	Bears 1950
Adams	122	77	234	239	...	...
Allegheny	34	39	43	22	...	...
Armstrong	326	238	425	186	...	...
Beaver	69	67	56	26	...	...
Bedford	677	617	Closed	Closed	...	...
Berks	275	92	847	460	...	...
Blair	646	253	1,109	417	...	1
Bradford	1,065	532	1,845	1,501	2	7
Bucks	82	62	89	151	...	...
Butler	343	198	494	107	...	...
Cambria	540	166	1,121	563	...	...
Cameron	1,253	799	2,331	Closed	58	32
Carbon	404	221	628	505	1	...
Centre	1,798	1,132	3,714	Closed	11	4
Chester	52	34	41	94	...	...
Clarion	493	273	631	198	1	1
Clearfield	1,602	1,207	Closed	Closed	4	8
Clinton	1,645	1,018	2,434	Closed	54	17
Columbia	389	191	669	549	...	1
Crawford	487	273	715	314	...	...
Cumberland	219	88	420	419	...	...
Dauphin	377	161	714	738	...	...
Delaware	8	3	7	6	...	...
Elk	2,675	971	9,804	Closed	31	18
Erie	319	162	361	258	...	...
Fayette	439	266	743	224	...	...
Forest	1,598	490	Closed	899	13	18
Franklin	349	302	Closed	Closed	...	...
Fulton	349	298	Closed	Closed	...	...
Greene	45	56	Closed	32	...	...
Huntingdon	1,119	489	1,742	1,150	1	1
Indiana	572	324	754	466	...	...
Jefferson	706	296	1,774	368	14	5
Juniata	348	246	463	Closed	...	...
Lackawanna	310	158	513	453	9	5
Lancaster	38	18	32	50	...	...
Lawrence	68	46	53	39	...	...
Lebanon	185	56	301	259	...	...
Lehigh	73	27	92	104	...	...
Luzerne	1,083	472	2,414	1,476	4	3
Lycoming	2,008	1,146	3,239	2,252	38	25
McKean	3,167	600	8,611	2,068	29	22
Mercer	174	106	222	104	...	...
Mifflin	428	271	603	Closed	8	1
Monroe	970	550	1,890	1,304	...	14
Montgomery	25	17	30	74	...	...
Montour	59	23	121	123	...	...
Northampton	101	41	163	150	...	...
Northumberland	198	106	339	370	...	...
Perry	387	432	Closed	Closed	...	...
Philadelphia	.....	.....	.....	.....	...	...
Pike	1,091	931	2,270	Closed	21	30
Potter	3,664	1,204	7,436	3,639	26	57
Schuylkill	692	430	1,217	1,119	...	...
Snyder	175	148	189	Closed	1	2
Somerset	1,101	500	2,129	850	...	...
Sullivan	1,087	568	2,839	Closed	15	19
Susquehanna	629	392	783	759	...	...
Tioga	1,957	861	2,684	1,913	29	28
Union	310	182	435	459	8	...
Venango	849	357	1,952	304	1	...
Warren	2,104	656	6,147	1,131	14	17
Washington	17	36	19	9	...	...
Wayne	842	566	998	1,272	9	11
Westmoreland	779	449	1,167	593	...	...
Wyoming	463	240	835	601	8	6
York	81	53	32	100	...	...
County Unknown	62	19	158	48	1	1
TOTAL	46,602	23,302	84,121	31,515	411	354

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Why a Multiflora Rose fence?

Reason No. 1

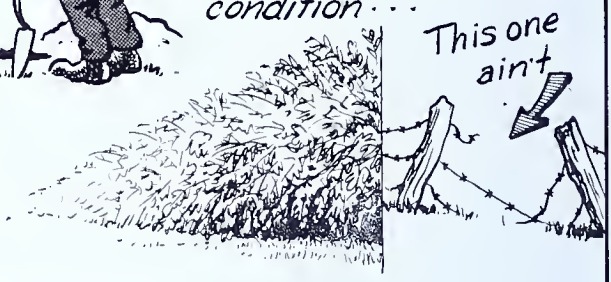


It's easy to plant – beats diggin' post holes...



Reason No. 2

It's permanent. Fences planted 25 yrs. ago are still in excellent condition...

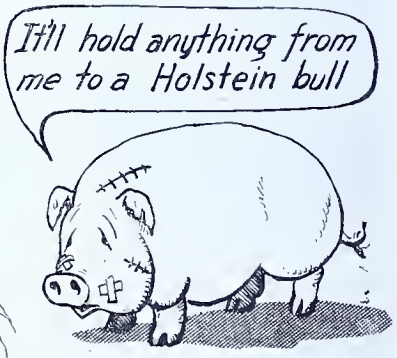


Reason No. 3

It does not sap fertility from nearby soil...



Reason No. 4



Reason No. 5



It furnishes excellent.....cover for wildlife and insect-eating birds — cover.....that disappeared when "clean farming" and wire fences came on the scene...

Reasons No. 6, 7, 8 and 9

It costs little to start, requires no upkeep, prevents soil erosion and can be planted in circles, angles, curves and a dozen other shapes that a wire fence never heard of.



Ⓐ Disc and fertilize – then plow a furrow



Ⓑ Set plants



© Reverse furrow to cover roots, pack soil with tractor wheel or foot, then prune stems to 3 inches.

Ned Smith

PENNSYLVANIA Game News

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P 338.4
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MAY 1951

10 CENTS



THE STORY BEHIND THE COVER

DURING the summer of 1932 the Pennsylvania Game Commission started an in-service training program for its field personnel. This training proved so effective that in 1936, with some variations, the course was adopted as a method of selecting and training all future field officers.

Five classes between 1936 and 1949, totaling 129 Pennsylvanians, have been graduated from the Commission's training school, now called the Ross Leffler School of Conservation, located on more than 40 thousand acres of State Game Lands near Brockway in Jefferson County. These men, 111 of whom are still serving the Commission and people of Pennsylvania as District Game Protectors or staff officers, are living examples of the long recognized axiom that "conservation officers are made, not born."

On April 28th twenty of the young men shown on the cover with the Commission's Chief of Training, W. C. Shaffer, extreme left, successfully completed a course of study begun on May 1, 1950, and graduated from the School as the Sixth Student Officer Class. They will be assigned to field duty on a probationary term of one year. Those furnishing satisfactory service will then be enrolled in the Commission's regular field force.

Under the leadership and guidance of Chief Shaffer and his staff—R. S. Lichtenberger, Assistant Chief; Donald E. Miller, Resident Instructor; and Charles V. Erickson, Typewriting Instructor—and many visiting instructors, including Professor John F. Lewis of the California State Teachers College, these new Game Protectors have been given a thorough grounding in the principles and techniques of wildlife protection, restoration and management, have successfully met every test and challenge of their field and classroom education, and enter their new conservation careers fully equipped to do their duty and accomplish their mission. They are professionals in every sense of the word and embark on a life's work which is vital to the future of themselves, and all the people of their state and nation. No group of men has a greater trust; no public servants a greater obligation. The future of wildlife in Pennsylvania hinges upon the work of men such as these and the teachings of the School of Conservation.

SUPPORT YOUR GAME PROTECTOR—GUARDIAN OF YOUR WILDLIFE HERITAGE.

PENNSYLVANIA Game News

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(Semi-Monthly in September and March)
by the
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Vol. XXII No. 2

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

★

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Presenting
A Special "Game News" Conservation Education Pamphlet "Pennsylvania's Spring-time Birds"

Cover Kodachrome
by
Hal H. Harrison

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Salute to Service

For twenty Pennsylvanians, this month represents the start of a new career. Whatever their social background, their previous occupations, their economic status, or their former achievements, they now unite for the benefit of conservation.

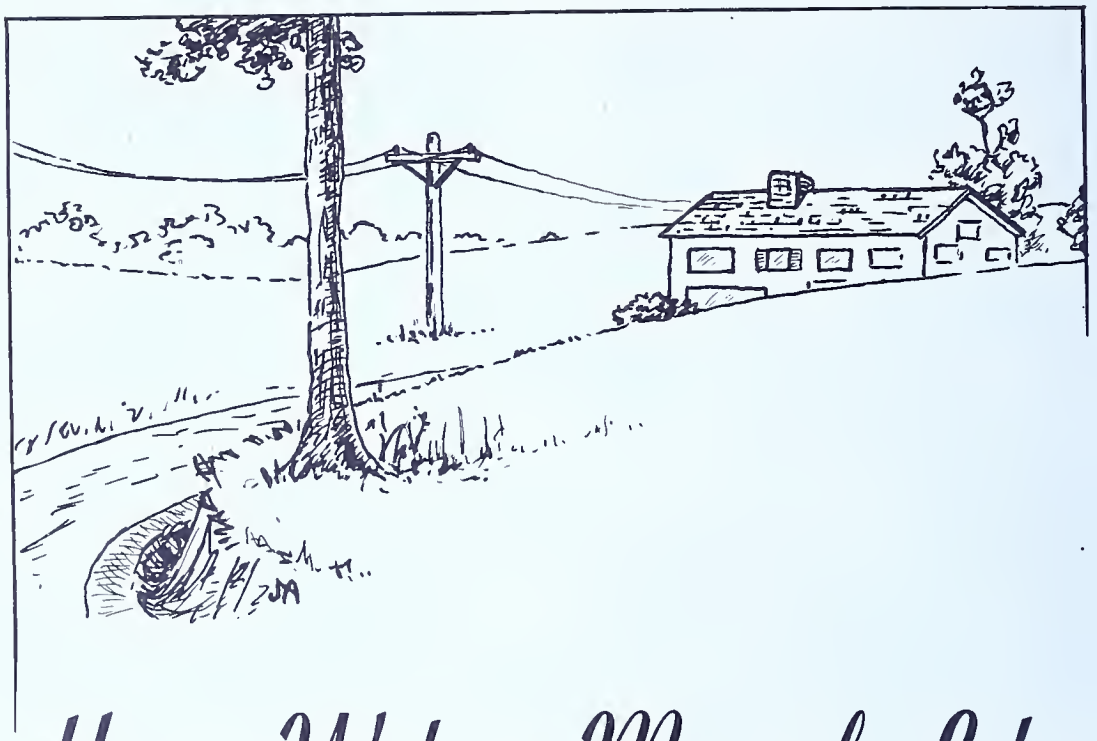
These young men, graduates of the Ross Leffler School of Conservation's Sixth Class, can look back over twelve months of intensive training. Under the guidance of the School staff and 50 visiting instructors, Pennsylvania's new game protectors have learned more in one short year about conservation and wildlife management than most men learn in a lifetime. They have spent long hours in the classrooms but, more than that, they have tested their knowledge in the crucible of field work. They have met every criterion, from the thorough physical, written and oral examinations which first qualified them for admission to training, to the successful completion of each course in biology, land utilization, legal procedure, police sciences, game management, game propagation, public relations, and others.

They now look forward to the serving of this great Commonwealth, all its people, and its wildlife. This month they join ranks with one of the finest groups of public servants and conservation officers to be found anywhere in the world. Upholding and improving the nationally acclaimed reputation of Pennsylvania becomes a great challenge.

As these new game protectors cross the threshold into the work of a new and intriguing profession, they carry with them the respect of all who are interested in safeguarding and conserving Nature's rich outdoor heritage. Sworn to defend the constitution of their nation and state, commissioned to uphold the intent and spirit of the law impartially, honestly and courteously, yet with the same fairness they would expect from others, these new officers are pledged to the restoration, preservation and protection of America's basic foundations—its soil and minerals, its forests, waters and wildlife. No career could be more challenging; no duty more essential.

COOPERATE WITH YOUR GAME PROTECTORS FOR THE BENEFIT OF ALL





Homes Without Manual Labor

By Jackson Miles Abbott

IF YOU passed an armless man walking down the street and someone told you he was one of the world's foremost home builders you might not be too surprised. However, if you were told that this man not only designs homes but builds them himself without any outside help you would, no doubt, consider your informant as having a touch of the sun.

Yet there does exist in the world today a group of homebuilders who are able to construct sturdy, adequate homes entirely without the use of hands or arms! These house constructors use their mouths and feet alone, with no other aid, to erect their dwellings!

What manner of beings are these miracle engineers? They are our feathered friends, the birds, who can teach us a lesson or two about home-building. There are many types of bird homes differing in shape and size and in the material with which they are constructed. Nests range in size from the hummingbird's beautifully-constructed cup which is only as big around as a fifty-cent piece, to the tremendous wagon-load of sticks and debris, often six feet in diameter and from six to eight feet deep, which is the bald eagle's nursery. It is fitting that the bald eagle, symbol of America's freedom, builds the greatest bird home since the word "greatest" is synonomous with American industry and enterprise. Not only does the eagle build the largest bird home but, like a lot of Americans, lives in the same home all its life and adds to it each year, thus symbolizing the firmly-rooted, stable family life which typifies the people of a strong, solid nation.

Almost every type of home and family life among human beings has its parallel in the bird world. The fundamentals of good family life—home-building, conceiving, raising and properly educating their off-

spring for the life they are to lead—are as inbred in the feathered race as they are in humans. As in humanity, bird babies are born in almost every conceivable geographical location and situation. Like the ancient cliff dwellers, the duck hawk raises its young high on the precipitous face of a rocky cliff; members of the grebe family raise their young on floating rafts of reeds as did the lake dwellers of ancient Switzerland and our present-day house-boat inhabitants; young burrowing owls, bank swallows, stormy petrels and kingfishers to name a few, are reared in underground chambers as were the cave-dwellers' progeny; the noisy, quarrelsome crowded environment of the tenement districts in our larger cities would seem just like home to young herons, gulls and terns which are raised in colonies often so crowded that as many as three families of birds are born in one square yard of territory.

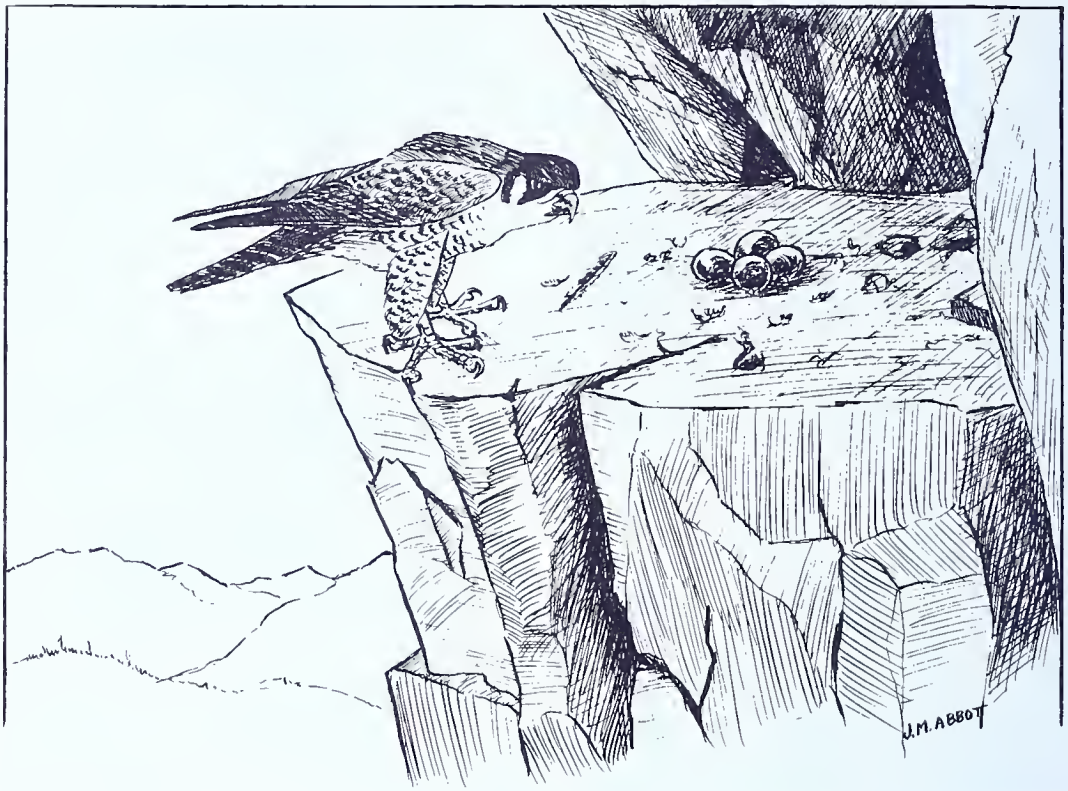
The type of construction which goes into a bird's home is almost as varied as that found in human habitations. The southwesterner in his adobe hacienda has no more durable dwelling than the artfully-constructed home of that expert feathered mason, the cliff or eaves swallow. This bird collects mud by the foot-full and as carefully and expertly as any good construction engineer, fashions its bottle-shaped home on the vertical surface of a barn, cliff-face or even the trunk of a large tree. Knowing that a slight rain would wash it away, the cliff swallow always locates its nest with protection from the elements by building it under the eaves of a building, beneath an overhanging rock on a cliff, or below a large limb of a tree. Another feathered thirty-degree mason is the familiar barn swallow, summer inhabitant of nearly every farm in the country, and just as adept at adhering its more conventional, open-topped mud nest to vertical surfaces as his less common cousin.

Experts in the field of wood-working are represented in the bird world by the woodpeckers. Each of these feathered carpenters possesses, in the form of its bill, one of the most efficient wood-working tools to be found anywhere in the world. No wood is too tough for these keen-edged, airborne chisels. In fact, the woodpecker's bill is so strong that at least one of the tribe, the common flicker, has been known to use the galvanized metal roofs of some human domiciles as a sounding board for beating a rolling tattoo, which is a part of every woodpecker's springtime mating antics. Such habits do much towards alienating the affection of the human occupants— nobody wants his house used as a drum. Woodpeckers chisel out their homes in either dead or living trees, telephone poles, and in some instances have been known to drill into the walls of wooden buildings. Old woodpecker holes provide ready-made, sheltered dwellings for bluebirds, wrens and other hole-nest-



Jackson Miles Abbott

Son of the late Jacob Bates Abbott, the author and illustrator of this article is currently residing in New Alexandria, Virginia. He is a civilian consultant on foreign engineer equipment to the U. S. Army Corps of Engineers. Born in Germantown, Pa., in 1920, Jack Abbott took to birds and animals almost as soon as his eyes were open and under his father's tutelage learned to draw and paint them. He has studied wildlife throughout America and abroad and commanded an Engineer Technical Intelligence Team in Europe throughout the last war.



Like the ancient cliff dwellers, the duck hawk raises its young high on the precipitous face of a rocky cliff.

ing species as well as snug roosting places for many birds.

The derelict shacks of shantytown and hobo villages are equalled in their makeshift, sloppy construction by the flimsy excuse for a home erected by most herons, cuckoos and doves. So frail and scanty are some of these birds' homes that daylight is readily visible through the nest from below and the young often fall out and are killed before they can fly.

On the other hand the hummingbirds, peewees, gnatcatchers, goldfinches and some warblers are honor graduates in the art of house building, and have an eye for interior and exterior beauty as well as comfort and durability. These smaller birds have more natural enemies than larger birds and are therefore more careful in sitting their homes in protective surroundings. Whereas man, who has no enemies but himself, landscapes and beautifies his home to please his eye and taste of beauty, birds turn to home decorating for protection from their natural enemies. This they do by the artful use of camouflage. To make its home appear to be anything but a nest, such as a knot on a branch, the bird decorates the outside with lichens or moss which normally grow on the tree.

Equally proficient at constructing sturdy, durable homes are nearly all the rest of the passerine birds. Notable among these is the oriole whose nest is a miracle of construction engineering, a pendant cradle of plant fibers hung from the tip of an outer branch, so beautifully constructed and firmly fastened that it withstands the strongest winds and may still be attached after a year or two.

The smooth roundness and cup-shaped interior typical of the intricately-constructed homes of most of our smaller birds is achieved by the bird turning around in the nest, shaping it to the contours of the

bird's body. Because the eggs of smaller birds are thin shelled and very fragile these birds line their nests with fine plant fibers, feathers and other soft material. The eggs of large birds are thick-shelled and not easily broken and therefore their nests are lined with rather coarse plant material, if they are lined at all.

The vast majority of feathered homesteaders build nests that are open on top while the remaining species nest in holes or construct roofed nurseries or make no home at all. Among those up-to-date birds which build roofed nests are the cosmopolitan marsh wrens and meadowlark, the ovenbird of the East and the cactus wren and magpie of the West. A pair of cactus or marsh wrens may build as many as ten nests before selecting one in which to raise their family. At first glance this might seem to classify them as the most self-critical and finicky of avian home-builders. Actually, they build so many nests as a protective measure, not from dissatisfaction. These birds' natural enemies, such as snakes and mice which abound in their particular habitats, are, after inspecting several empty nests, more likely to leave the others unsearched, believing them all to be empty.

Like many humans who have neither the ability nor the wherewithall for constructing their own homes and so rent homes built by others, many birds raise their young in the old nest of some other species. Young bluebirds, screech owls and sparrow hawks often raise their young in the old home of a woodpecker and the great-horned and long-eared owls are content to take up housekeeping in a home originally built by a great blue heron, crow or hawk. This

Kingfishers are reared in underground chambers as were the cave-dwellers' progeny.



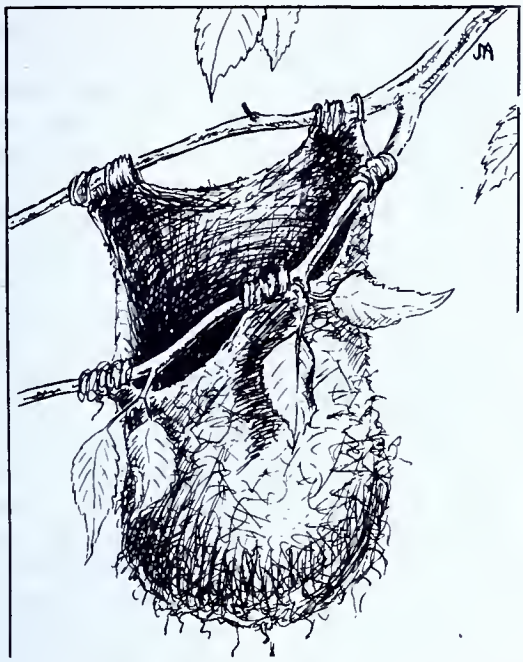
situation of one species of bird moving into the former home of another is tolerated by the original owner because the latter nearly always prefers to build a new home each year. However, the English sparrow and starling, both immigrants from Europe, are not always content to wait until the rightful owners move out and have been known to evict some of our milder-mannered native species from their own homes.

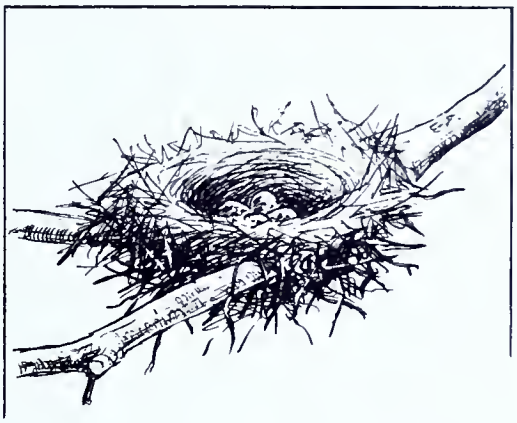
At the bottom of the ladder of avian home builders are such birds as auks and murres, both birds of the sea which congregate by the hundreds and thousands to lay their single egg on any ledge, niche or level space on the face of a rocky sea-cliff. No attempt is made by these birds to build a nest so nature has designed their eggs more cone-shaped than the eggs of any other bird. If the egg rolls at all on its narrow resting place, it rolls in a tight circle and there is much less chance of it rolling off into the sea. The penguin is another bird which makes no attempt at home-building. The barren antarctic wastes where these birds live are devoid of any material but snow and ice, so, to prevent the egg from freezing, the penguin broods its egg on its large webbed feet and, when moving about, carries it in a warm pouch in the bird's stomach. Incidentally, this portable nursery idea is also carried over into the animal kingdom where the kangaroo and opossum are among those animals equipped with built-in nurseries.

Then, there is that lazy, selfish, it's-too-much-trouble species of humanity which has its feathered counterpart in the cowbird which neither builds its own home nor cares enough to raise its own off-spring. However, for some unfortunate reason the creative instinct is strong enough to make the cowbird want to propagate its kind. This the female cowbird does by leaving its unwanted and illegitimate child (in the form of an egg) in the nursery of some staunch, upright feathered citizen, while the owners are away. Upon their return home, many of the foster parents fail to recognize the interloping addition to the family or else feel sorry for it and hatch and raise it to maturity, often at the expense of their own offspring. The baby cowbird grows much faster than young of most of its foster parents and as a result, the greedy stepchild grabs most of the food away from its foster sisters and brothers, many of which die of starvation before they are a few weeks old. Some birds do recognize the strange egg for what it is and either kick it out of the nest or go to the trouble of building a new floor to their nursery, covering up the cowbird's egg as well as their own, then begin again to raise a new family.

There is scarcely a type of material you can think of which does not go into the construction of some bird's home, either for decoration and camouflage or for strengthening the nest. Some humans prefer homes of brick or adobe and they have feathered followers in the previously-mentioned cliff and barn swallows, among others. Human proponents of wooden dwellings have a host of avian sympathizers including crows, most hawks, herons, jays and cuckoos, to name a few. South Sea Islanders and many other human inhabitants of tropical latitudes find that grass shacks are admirably suited to their tastes; so, also, do the sparrows, warblers, bitterns, meadowlarks and some ducks, among other grass house constructors. The white-throated and the black swifts of the West, the duck hawk, raven, and prairie falcon are all adherents of stone mansions and use rocky caves and crevices as the walls and roofs of their homes.

Perhaps the most unusual material to enter into the construction of a bird home is the sticky saliva which the chimney swift secretes in order to hold her twig nest together and to





The oriole's nest (left) is a miracle of construction engineering, a pendant cradle of plant fibers hung from the tip of an outer branch. The robin is most indifferent about the location of its nest (right) and has constructed them in many unusual sites, even on a brake rod of a freight car.

glue it to the vertical wall of a chimney or hollow tree. This saliva has just as strong and as adhesive properties as the best glue man can make and attains the consistency of hardened glue when dry. The swift is our only bird which has never been known to alight on the ground or on a tree limb. It is always in the air or, when not in flight, rests in a vertical position, clinging to the inside wall of a chimney or hollow tree. While in flight, the swift obtains twigs for its nest by snapping them off of a dead branch with its feet.

Insulation? Certainly, birds used insulation in the walls of their homes long before man mastered the technique. The Canada jay, crossbills and evening grosbeaks, all of which start housekeeping in sub-zero weather in the cold winter spruce forests of the North, build nests with a wooden foundation of sticks and twigs. The walls are then constructed of the softest plant fibers, mosses, animal fur and such other available material and finally lined with soft warm feathers from the breast of the brooding bird. Canada jays often construct their homes with soft, insulated walls three inches or more thick which keep out the bitterest cold. Many humans consider eiderdown quilts and sleeping bags the warmest protection available in cold weather; they got this idea from the lady eider duck herself, who lines her home thickly with her soft, downy, insulated feathers.

Just as you and I fumigate our house to rid it of insect pests, so do many birds use pungent plant leaves to keep lice and mites from their young. Every nest of the broad-winged and sharp-shinned hawk I have ever visited has been lined with fresh green hemlock sprays, or other pungent green leaves which are replaced as soon as they dry out.

It is probably for this very same reason that the crested flycatcher invariably finds and inserts into the lining of its nest one of the most peculiar materials to go into the construction of any bird's home: a cast-off snake skin! Apparently the

crested flycatcher is the only bird which has discovered that shed snake skin has insect-repellent properties.

Believe it or not, there are birds which are just as addicted to interior decorating and accumulating peculiar objects in their home, and for no other reason, as are many human beings. Many osprey or fish hawk homes which the writer has visited have housed collections of such brightly-colored and oddly assorted ornaments as red rubber bathing shoes, silver spoons, a woman's paper parasol, junior's comic book (which, presumably, the old man osprey read to his young), a burned out electric light bulb, and other similar junk. Other birds seem to be as fascinated by comic strips as many of us. The writer found a wood thrush's nest once which had nearly an entire half page of colored Sunday funnies hanging from the base of the nest.

Like many humans, most birds have particular preferences in the site for their homes. Like the retired ship captain who must have a view from his house of his beloved sea on which he has spent most of his life, the osprey erects his home in a tree or cliff overlooking some body of water which is his only source of food. In fact, the osprey spends his entire life over, or in sight of, water. The aptly-named kingbird prefers an exposed site high in a lone tree or at the edge of a woods or orchard for its home so it can spot an approaching hawk or crow from afar and fly out to the attack, invariably driving the larger bird from his domain.

Normally, the choice of site for a bird's homestead depends upon the type of food which it eats. This factor also has much to do with the time of year in which a bird starts housekeeping. The great-horned owl, for instance, begins home life in the dead of winter. The eggs of the great-horned owl, like the eggs of all large birds, require a much longer incubation period, and their young a much longer time for rearing to maturity, than those of small birds. The period of incubation of a great-horned owl's egg is about one month. After hatching, it is about seven

Members of the grebe family raise their young on floating rafts of reeds as did the lake dwellers of ancient Switzerland.



weeks before the young are ready to leave the nest and it will be about three weeks more before the young can fly. This means that if the eggs are laid in the middle of February it will be about the first or second week in June before the young owls are able to fare for themselves. Since these large birds hunt only at night their prey may be found with less difficulty in a woods devoid of foliage than in the same woods after breaking into leaf, offering concealment for their proposed victims. Therefore, the owls nest early in the year in order to supply their young with a sufficient amount of food, and at that time of year when the type of food on which they subsist (skunks, rats, rabbits, birds) may be easily found. The goldfinch, which begins housekeeping in July or August, is one of our smallest birds and feeds chiefly on weed seeds which are most abundant in late summer. Only about fourteen days are required for the eggs to hatch and it takes about the same length of time before the young are on their own.

Most birds have their own particular home territory which is respected by other birds of the same species. For instance, the song sparrow has a particular area in which it builds its home and from which it obtains its food. The male zealously guards his established homestead against trespass by other song sparrows and regularly makes periodic inspections of his territory for such encroachment. However, not all species follow this rule of territorial possession. Birds like the herons, red-winged blackbirds, auks, murres, terms and gulls are gregarious and nest in colonies of hundreds to thousands of pairs, with nests often only a few inches apart. This crowded housing condition among certain birds is tolerated because their food, which is derived from the sea or the marsh, is so abundant that there is plenty for all and because suitable homesteading sites are few and restricted in area.

Perhaps the bird most indifferent about its choice of home site is the robin which has adapted itself to the ways and works of man more quickly than any other native bird. Robins have been found home-steading in many unusual locations such as on a window shutter, telephone pole, fence post, in a mail box, on the arm of a derrick. Several years ago an article appeared in a national magazine stating that one pair of robins built their nest on a brake rod of a freight car which was standing idle in a freight yard in one of our eastern cities. After the nest was completed and the female robin began to brood her eggs, the freight car was attached to a train which was soon rolling to a new destination several states away. The female robin sat on her nest during the entire trip and is probably the only native bird which laid her eggs in one state and hatched her young in another. That robin was undoubtedly the first proponent of modern human trailer life in the bird world.

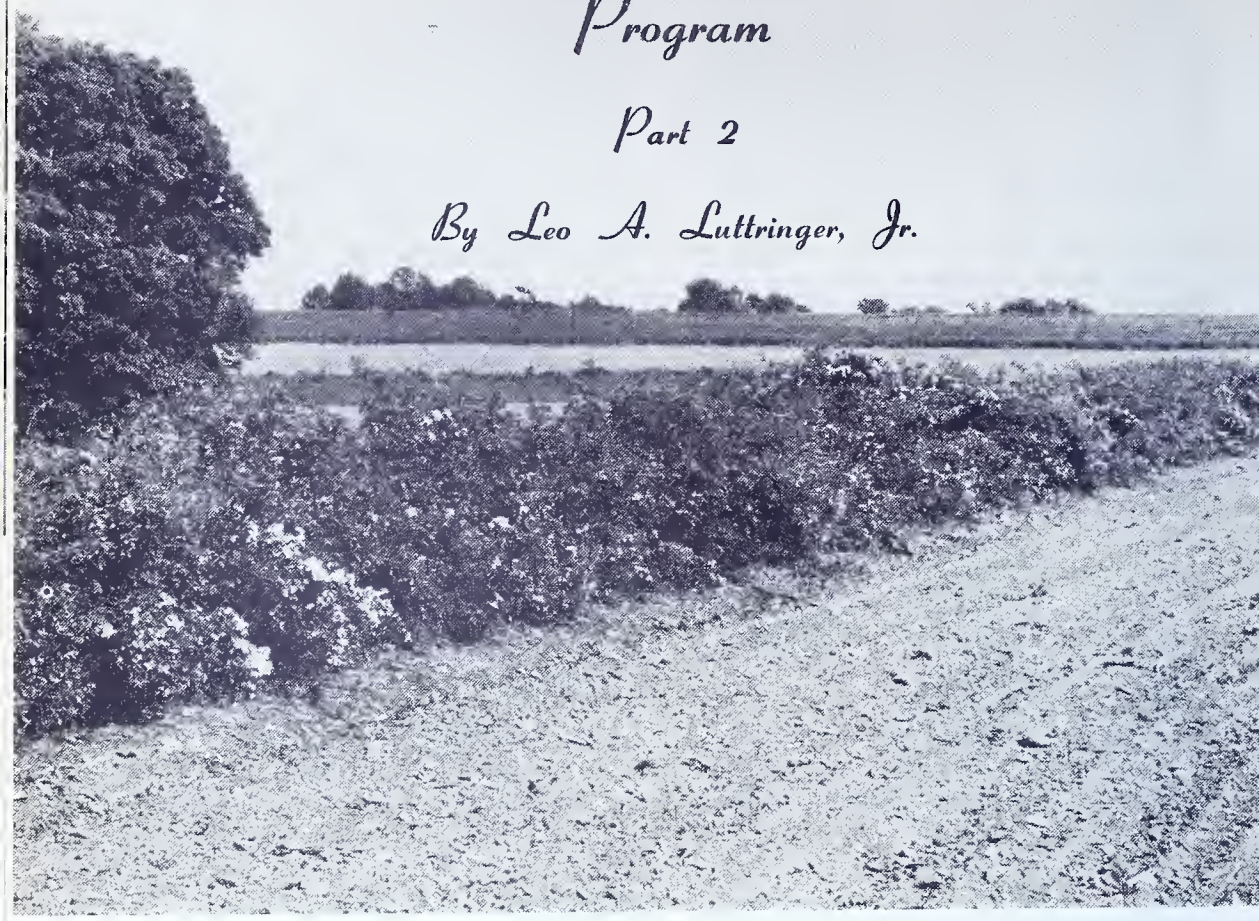
Yes, the parallel between human homes and bird homes is similar all down the line until we consider the basic educational stages of house-building. A young man must go through several years of specialized training and schooling before he is capable of constructing a livable domicile. It is here that the feathered homebuilders far outstrip man. The technique of a bird's home construction is *not* taught to its offspring but is an inherited ability. It is one of Nature's many miracles that a year-old bird can construct a home typical of its particular species, faithful in the last detail of shape, size, and material with which it is constructed, yet using only its mouth and feet and without ever having been taught how to do it and never having seen one made!

. . . *The End*

Pennsylvania's Conservation Program

Part 2

By Leo A. Luttringer, Jr.



The Pennsylvania Roadside Council Incorporated has operated through the years under the truism "Man cannot live by bread alone." It is a truism most of us subscribe to, and one which every passing postwar year makes increasingly significant. It provided the stimulus which influenced the Council to help secure the inclusion of 'conservation education' in the revised Elementary Curriculum of our State Department of Public Instruction.

While its legislative efforts of the past ten years have not produced the roadside clean-up it hoped for, still there has been some noteworthy improvement for which the Council should be highly commended. The well known Roadside Rest Program is due to the efforts of this Council. Likewise the Blue Star Memorial Highway program, for which it collected $36,000 and planted to date approximately 7,000 memorial dogwood trees.

It is impossible to record the results of the Council's efforts at a local level in the field of planning and zoning, both in small and large communities, in order to protect both the land and those living upon it, but it properly comes under any Conservation program.

The Council also conducts a "Model Mile Contest" for the encouragement of anyone wishing to landscape and improve a mile of state highway. First prize of $1,000 went to the Huntingdon Civic Club just last October, thanks to a grant from the Richard King Mellon Foundation which seems to think that the council is doing an unusually fine job in promoting the beauty of Pennsylvania.

A fine program of kodachrome slides titled "Pennsylvania Highways, A Conservation Problem," may be had free of charge upon request to either the Roadside Council office or the State Planning Board, Harrisburg.

Federation of Women's Clubs

There is an old saying that when you really want to put something across enlist the women. How true that has been in conservation. The Pennsylvania Federation of Women's Clubs has been a pioneer in this field.

It has furnished and sponsored the planting of more than 2,000,000 trees by Boy and Girl Scouts from 1897 to 1948. In commemoration of this program the Commonwealth dedicated a Memorial Forest to the Women's Clubs known as the "Federation Forest." It is located near Parker's Dam in Clearfield County and contains some 120,000 evergreens.

Under a program dubbed "Thar's Gold in Them Thar Hills" it influenced people in the anthracite coal region to plant thousand of forsythia bushes in the hills and in the front yards of northeastern Pennsylvania and conducted a survey of the Dutch Elm Disease in the Eastern United States using Scouts in a house to house canvass.

It has been promoting flood control, the prevention of stream pollution and water conservation since the 1920's and many years ago helped to sponsor legislation to prevent the use of bird feathers in the millinery trade. It played a big part of the Clarion River Cleanup and has constantly opposed billboard erection.

In 1937 as a protest against commercial speculation, it raised $6500 purchased the Wilken's Farm and gave it to the U. S. Forest Service so that Hearts Content in Warren County could be declared a public recreational area.

The Federation has taken over the planting program of the Main Drive of the Bowman's Hill State Wild Flower Preserve at Washington Crossing Park, Pennsylvania, which includes the planting of many native trees and shrubs. The drive was set aside as a memorial to past presidents of the Federation. In the Preserve are many trails including the Medicinal Plant Trail, Fern Trail and a section devoted to study and education.

It contributed $5,000 to the Girl Scouts for training leaders to go into other counties where no Girl Scout units existed. It sponsored a movement to establish school "forests" on school grounds, the initial ventures having been undertaken on the Washington Township High School grounds by the Apollo Women's Club.

To make sure its members are familiar with all local projects, inspection trips are conducted when deemed essential. For example in 1947 and 1948 one thousand women respectively visited 16 of the 32 State Parks and made constructive criticism concerning better public use of these facilities. Local clubs sponsor one-day workshops through the Education Extension Service of The Pennsylvania State College wherein conservation is stressed. It helped preserve many of our National Memorials including the preservation of the famous Jackson Hole country in Wyoming, and was instrumental in having Rickett's Glen established as a State Park in Luzerne County, Pennsylvania. The Federation promotes the wide distribution of state and national conservation literature by purchasing large quantities through local clubs and giving it to schools, Scouts, etc. The Women's Federation also awards many scholarships to teachers attending The Pennsylvania Conservation Laboratory.

These are the things our women are doing for conservation. They speak in action, *not* in words.

For a group of citizens to form an

organization through which all interested persons may work for the betterment of a community is not new. This procedure is the American way of progress and has contributed much to making this country and this State great. Such an organization is the Brandywine Valley Association which has fought and won its second battle, so to speak, by subduing the forces of conservation evil. Its work is mostly educational. It employs as its number one tool several illustrated talks which have already been presented to more than 300,000 people in the four years of its existence. It has assisted in conducting contests for the Future Farmers of America and the 4-H Clubs in Chester County, Pennsylvania and New Castle County, Delaware. It established and assisted in three Conservation Workshops for Teachers—Pennsylvania State College, West Chester Teachers College and the University of Delaware.

As a direct action program it has interested the people of Chester County in forming a Soil Conservation District in order to accelerate the application of soil conservation practices. In less than two year's time this District established a record for the twelve northeastern states by receiving applications from over 500 landowners for complete farm plans of which over 360 have been completed to date.

The association has had biological and physical surveys made of the streams in its area by the U. S. Fish and Wildlife Service; instituted measures for securing a survey of underground waters; initiated and secured the passing of a pure streams law for Delaware.

It has attempted to work out a balanced program dealing with soil, forests, waters, fish and wildlife and facilities for recreation and to coordinate the work of and prevent duplication and conflict between all

The Pennsylvania Federation of Women's Clubs has been a pioneer in conservation programs. It was instrumental in the establishment of the Armstrong Forest Tree Farm on 57,000 acres in Elk and McKean Counties.



conservation organizations whether private, county, state or federal in order that the interests of the people of the Brandywine Valley could be best served.

It believes in the old adage "Seeing is believing" and arranges and conducts field trips for teachers, students, civic groups and service clubs to observe erosion, pollution and conservation practices. Are you beginning to realize by now why I said no new word or description is needed for Conservation. It's HERE!

Even the Philadelphia Maritime Exchange is a member of the Pennsylvania Conservation Committee, and while its functions are remote from the subject under consideration it can, through its vessel reporting stations, keep a weather eye open for migrating waterfowl and record them.

The Keystone Automobile Club, while primarily concerned about highways safety, is also greatly interested in the conservation of our State's natural resources and stands ready at all times to support the program through its publication the *Keystone Motorist*. Which brings up an important point. Why not help each other, we who are interested in the all-over conservation program, by making space in our publications for plugging the other fellow's programs?

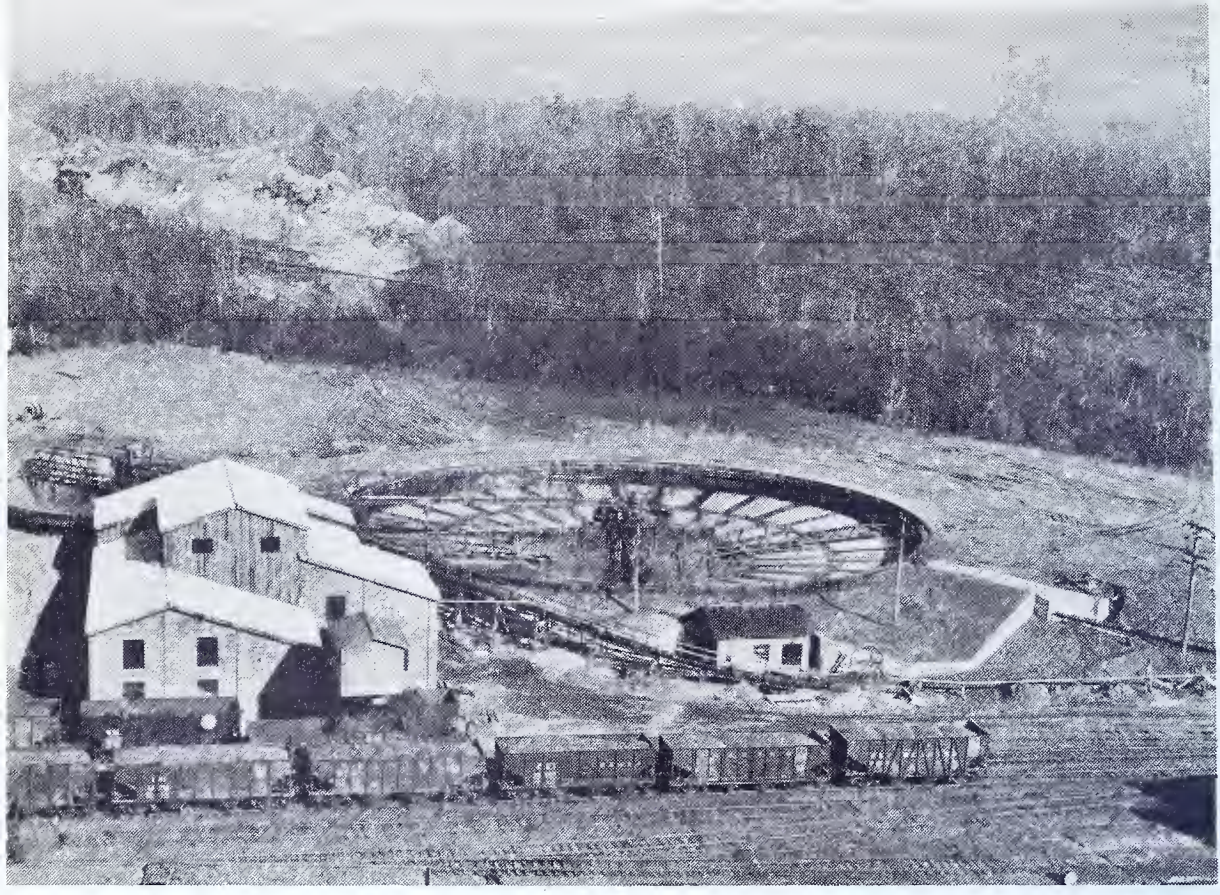
The Horse-shoe Trail Club, Incorporated, sponsors the nationally famous Horse-shoe Trail which wends its way through scenic eastern Pennsylvania. It has just issued a guide book which gives the history of the development and maintenance of the Trails, which is already familiar to and has been traversed by many outdoor lovers from many states. In collaboration with the Dr. Moore chapter of the Izaak Walton League it is now planting some 6,000 State seedlings along this hikers' and riders' paradise. Last year 2,500 persons from 35 states and 5 foreign countries visited the ten Youth Hostels along the Trail.

The Greater Philadelphia and South Jersey Council comprises a Board of Governors, one from each of the Pennsylvania counties of Bucks, Philadelphia, Montgomery, Chester, Delaware and one from each of the New Jersey counties of Mercer, Burlington, Camden and Gloucester. The Council is an all-over planning group including Industry, Finance, Real Estate, the Delaware River Ports, Transportation, Commerce, Aviation, Public Parks, Research, Promotion, Agriculture, Planning, and Stream Pollution. It is particularly concerned about the latter problem and has a committee of technicians studying various phases of it, especially water and sewage.

One of the most objective conservation organizations in Pennsylvania happens to be individual in character. Its first aim is to protect the beneficial migrating hawks and its first project in Pennsylvania began with the establishment of the Hawk Mountain Sanctuary near Kempton, Berks County in 1934. Four years later the Hawk Mountain Association was formed under the auspices of Mrs. C. N. Edge a member of the National Emergency Council of New York city. Birds of prey, which were killed indiscriminately by the hundreds before the refuge was acquired, now continue their spectacular gliding migratoral flights through the Commonwealth in comparative safety. At least 10,000 people a year visit the sanctuary and watch the endless stream of magnificent birds moving south to take up their abode during the winter months. The Pennsylvania Game Commission is cooperating with this Association to the best of its ability in an effort to curtail the wanton killing of beneficial creatures.

Pennsylvania Parks Association

The Pennsylvania Parks Association promotes the establishment of more and more outdoor recreational areas in sections which are too far



The Interstate Commission on the Delaware River Basin (INCODEL) gives expert advice to various State, Federal, and private agencies concerned with conservation and has helped solve many important problems facing the several states along the Delaware. This coal reclaiming plant constructed by the Lehigh Coal and Navigation Company is part of an all-out drive, spearheaded by Incodel, to restore the river to its natural beauty.

removed for week-end enjoyment from populous areas. Its "Park News," a 6 x 9 magazine published bi-monthly, should be of interest to any outdoor lover.

Its purposes are broad-minded and extensive, including the preservation and care of the beautiful scenic spots in Pennsylvania; cooperation with various historical societies in marking points of historic interest; promoting the study of botany, ornithology and kindred subjects in cooperation with garden, nature clubs and similar organizations; beautifying and preserving notable views on our highways.

Enthusiasm is not only found in the larger conservation organizations. The Pennsylvania Forensic and Music League administered by the University of Pittsburgh through its Extension Division, provides sound, conservation activities for Pennsylvania High School Students. These include conservation orations, photograph, poster and essay contests in soil, water, forests, fish, minerals, parks and wildlife. In order to encourage this program, which is participated in by several hundred high schools annually, the Game Commission provides an annual subsidy of $250 cash for prizes for 1st, 2nd and 3rd places in state final contests in each of the four events.

The oldest sportsmen's organization in the Commonwealth is the Pennsylvania State Fish and Game Protective Association with headquarters in the Schaff Building, 1505 Race Street, Philadelphia. It was organized in 1882 and incorporated in 1886. It is both generous and enthusiastic in promoting conservation projects in southeast Pennsylvania and for the past several years has earmarked $100 to purchase seedlings for presentation to landowners who

are cooperating in large tree planting programs in eastern Pennsylvania.

Two other large privately owned associations in Pennsylvania who deserve special recognition for the high standard of sportsmanship they have maintained through the years and for the contributions they have made in one way or another through the conservation program. They are the Rolling Rock Club of Westmoreland County and the Split Rock Club of Carbon County.

The Boys Scouts, Future Farmers of America, 4-H Clubs, many Junior Conservation Clubs and undoubtedly groups about which I may never have heard are contributing their share toward safeguarding our natural heritage. They feed wildlife, build bird houses, and plant trees and shrubs. Our job is to see that they are never without adequate effective programs for school integration and for teacher reference.

Educational institutions such as the Academy of Natural Sciences, Philadelphia; the Carnegie Museum, Pittsburgh; the Reading and Scranton Museums and no doubt many others are constantly striving to educate the youth and have set up conservation education exhibits for them to see, taken them on hundreds of field trips, given them illustrated talks on the subject and in some instances have provided them classroom materials. The Carnegie Museum has a great many cases of mounted song birds which are loaned to schools from time to time and these have proved very effective in helping children to become better acquainted with our feathered friends.

Incodel

One of the best examples of pooled thinking and coordinated efforts concerns the Interstate Commission on the Delaware River Basin. This Commission is aggressively interested in statewide conservation programs. Popularly known as INCODEL, it was established in 1936 as a joint governmental agency of New York, New Jersey, Pennsylvania and Delaware, and was dedicated to cooperatively develop a policy and program for the conservation and wise use of natural resources of the Delaware River Basin. There are twenty members on the Commission—five from each state—one, a State Senator; one, a member of the House of Representatives; one, a member of the Governor's cabinet; one, an official of the State Planning Board; and one, a delegate at large.

Its powers are advisory and its weapons are persuasion and conversation. It has no administrative powers—it can neither construct nor finance. The Commission itself is financed by legislative appropriations from the four states. All programs developed by Incodel are referred to the respective state governments for approval and adoption. The administration of such programs is entirely up to the relative states.

The initial objective of the Commission is to help solve major problems which have been hounding the states for years—stream pollution abatement, water supply soil and forest conservation, flood control, recreation—thereby tackling first things first. This policy has been very successful in formulating unified programs. The gratifying results achieved by Incodel demonstrate the value of interstate cooperation.

In cooperation with the Lehigh Valley Flood Control Council, it endorsed the establishment of a research program in 1948 and established the Delaware-Lehigh Experimental Forest.

Rain and snow recording gauges were installed at various locations and soil moisture samplings were taken. Wells to record fluctuations of water table were dug, stream guaging stations were erected and many more vital observations and measurements were made in the scrub oak

area to determine its influence on the quality and quantity of water yield. About 200 plots were planted to determine the species most favorable to replace the scrub oak.

Incodel's conservationist, working in cooperation with State, Federal and private agencies, has made considerable progress in teaching woodlot owners the advantage of marking trees for selective cutting, and finding markets for timber.

Remarkable progress is being made toward cleaning up the Delaware River with major cities and industries cooperating to end pollution. The all-out drive, spearheaded by Incodel, will ultimately restore the river to its natural beauty.

The abatement program for the Philadelphia-Camden area also will result in the restoration of shad fishing in the Delaware River. The heavily polluted waters present a great obstacle to shad trying to reach spawning grounds upstream.

In closing allow me to venture a few opinions or suggestions which I believe will make us all more conservation minded.

If you have read this article, you will agree that there is no need to fish around for a word that will serve its purpose better than the word conservation. It is HERE to STAY! All we need to do is pool our thinking, our resources and our facilities in planning programs that will become statewide instead of local in application. There is a tremendous need for more teacher training in conservation, and financial provisions for this will be made within the Department of Public Instruction on a larger scale than the several state conservation agencies such as Fish, Forests and Waters, Game, Commerce and such outside groups as the Federation of Sportsmen's Clubs, and the Izaak Walton League and the Women's Clubs have been able to jointly sponsor.

More interest by all conservation groups should be centered in the current movement to establish Junior Conservation Clubs either in the High Schools or as auxiliaries to parent sportsmen's associations. The movement could well be set-up as a statewide organization with a specific identity. That may be expecting too much for the present. At any rate there is being prepared a splendid Manual for Junior Clubs setting forth the procedures of establishment and many year-round programs of activity. It should be available by early spring. Members of faculties who have a hankering for the out-of-doors should be influenced to "Daddy" one of these Junior groups.

Conservation should be taken into the debating classes of our colleges for there are many important controversal issues that have been knocked around for many years which young, intelligent, unbiased minds might help solve. "Are antlerless deer seasons necessary?" "Does it pay to pay bounties?"

More Junior Conservation camps should be established throughout the Commonwealth, using trained leaders who participated in previous camps. Advanced conservation camps should even be established as follow-ups to regular camps for the specific purpose of training leaders. Only in this way will they become MORE than camps.

It has been a pleasure to write this little article. The response on the part of every cooperating agency was wonderful. I thank them all. I hope I have done all of their splendid programs justice. I hope I have not missed anyone.

I hope this will be the means of bringing them even closer together so that each in his own way may profit and also help the other fellow.

. . . The End

Outdoor Reveries



Dogwood and Wild Crab

By John H. Day

IT WAS either wash day in the woodlands, or the timberland merchandizers were staging their annual May day "white" sales. Everywhere I turned a floral display of dazzling white accented the somber background with almost startling vividness.

The showy trillium started the whole thing just as I entered the woods. I had parked by the old mill and had barely reached the edge of the timber when a great drift of these gorgeous flowers snapped to attention by way of greeting. It is hardly plausible to say that they covered whole acres of that wooded hillside, but the effect of those tremendous "drifts" was that the blooms were everywhere, leading off through the thickets as far as the eye could follow them.

An occasional pinkish bloom showed up among the pure white blossoms. This was either an aging flower or a bit of freakish coloring. The trillium panorama had somewhat conditioned me to the shock of dazzling purity in the thickets, but just over the rise I stepped suddenly into a sea of whiteness that was almost breath-taking in its simple beauty.

The overcast had broken during the early afternoon, and as I topped the rise the sun came through to illumine the dogwood cathedral built by the Master Architect on that open slope. I found myself walking humbly through an enchanted world. Each little dogwood tree in the grove strove to outdo its neighbor in the May day festival. No careful housewife ever hung out a bleached wash to rival the dazzling linens on those myriad dogwood clothes lines.

I found a sunny knoll in the midst of all this beauty and stretched out to enjoy a quiet woodland interlude. An errant breeze freighted in a load of heady perfume from a nearby thicket of wild crabapple.

Give me one good binge of wild crab perfume in Maytime and a stretch of sun-warmed, open woods in which to laze it off. This is the kind of intoxication which has made hopeless addicts of all true outdoorsmen. I even believe the honey bees

get blind drunk in the delightful tipple of the wild crab groves. I wonder if they ever get home to the wrong hives?

In an open swale below I could see a large station of the wild blue phlox commonly known as Sweet William. A crested flycatcher came down through the trees and picked up a few insects in the dogwood grove.

A big red-tailed hawk came snooping down low above the trees just across the swale. He came in close and as he veered in a wide circle I got a good view of the rufous tail which gives him his name. A trio of crows took umbrage as the big buteo soared about and rose to the attack. I had a front row view of the aerial dog-fight from my sun-warmed knoll.

The hawk seemed little perturbed by the slashing dives of his black tormentors, and I noticed that they always pulled up and away before they got in too close to the traditional enemy. When actually in combat the crows use particularly insulting language. They traced that hawk's ancestry with quiet and deadly venom as they "rode" him high in the sky and finally across the horizon.

The big blacksnake eased his glistening six-foot length up through the rock ledges and came out on top of the "hog-back." Here on a grassy knoll, just back from the cliff which dropped down a sheer thirty feet, he dozed off in the warm sunlight. During the late afternoon I came blundering along up the trace which marks an old woods road across that hillside. There were dense patches of poison ivy springing up along this old trail, but I ploughed right on through and finally came out on the ridge, badly winded from the hot climb.

The big snake came suddenly awake as I walked out onto his high-level solarium. He was in a bad spot, since the only escape lay right past me. He came out of his sunning coil in a tremendous hurry and sailed right out into space over the edge of the cliff. Somewhere below he apparently made a safe landing, for he was out of sight by the time I got to the rim of the bare rock bluff.

Along the trail up that hog-back ridge the glowing red stars of the fire pink shone out in dazzling beauty. The sedum known as stonecrop was also in full flower, and I noted many of the full blown blossoms of the fragile little oxalis known as violet wood sorrel.

The blacksnake had chosen an ideal spot for his afternoon nap. From this high rocky observatory I could look out through breaks in the timber and catch glimpses of the wide creek far below glinting in the sunlight. A quail family was at home somewhere out there in the bottomlands. At almost measured intervals the familiar "Old—Bob—White!" echoed across the countryside.

There was a drowsiness in the air that lured me to a seat on the grassy knoll vacated so hurriedly by the snake. Soon I was nodding half-awake while a gorgeous indigo bunting and his prim little browncoated wife hunted out a meal on the ground close by. The monotonous mournful crying of a wood pewee



nearly had me completely under when I suddenly came aware to the danger of following that sleepy snake over the edge of the cliff and got up and away from there.

An ambassador from Brazil, recently arrived at his new post, was busy displaying his credentials in the valley the other day. He represents the wild folk of the lush Amazon basin, and is every inch a suave, easy-going diplomat. He is a staunch advocate of free trade, usually takes top honors as the best-dressed consular agent of the year, and is solidly against all stray cats and irresponsible riflemen.

We met this good neighbor from the tropics while traversing the valley roadway through a heavily timbered stretch. He flew across before the car, his scarlet waist-coat glowing like a live coal, and halted in full view in the undergrowth. For several moments we watched as this firebrand from the rain forests displayed the lazy grace of the scarlet tanager, most beautiful of our Summer birds.

He shares with the cardinal, the oriole and other striking birds the "fatal gift of beauty." The wanton marksman, at large with a scope-sighted rifle, finds these glowing targets irresistible, and with a few well placed shots blots out forever much of the vivid beauty of the Summer countryside.

The countryman knows the scarlet tanager well. He listens for the hoarse warbling song, like an alto robin with a sore throat, in the tall oak groves which this gorgeous migrant favors as nesting sites. The alarm note is a distinctive sound of the damp woodlands. And seen against the background of the timberland, as he sings to his nesting mate from some lofty perch, he stands out as an unforgettable emissary, a true ambassador of the tropics.

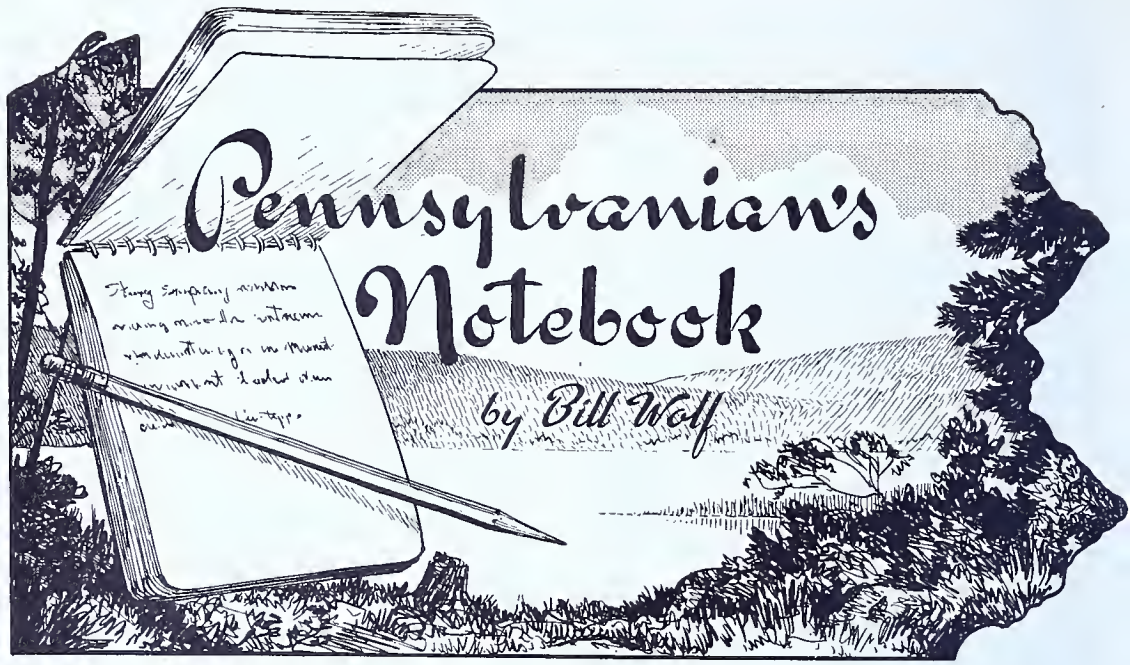
. . . *The End*

Outdoor Benefits To Hunters, Fishermen Overcome Cost Of Equipment

Those who have not learned the appeal of the outdoors seldom understand the faraway look in a fisherman's eye as trout season nears; they are dumfounded at hearing a cold, hungry, unsuccessful hunter declare, at day's end, that he had enjoyed a wonderful time afield. Gail Evans, advertising manager for Remington Arms, Inc., throws considerable light on this with the following:

"The outdoor sportsman may be fussy about his household budget, but when somebody mentions the cost of hunting and fishing, he's generally looking out the window. There is, of course, a definite reason for this. To the hunter or angler, his sport is Big Medicine, to be taken in large or little sips and as often as possible. It is balm to the soul, nourishment to a tired body and sedative to jangled nerves.

"Luxury? Don't be foolish! To hear the sing of a reel, to smell the smoke of gunpowder, to watch the dawning on an ice-fringed marsh or see the moon rise over a wooded lake . . . these are all events of much importance to the physical and mental well-being of the average sportsman. To count their costs in drab terms of dollars and cents is considered bordering on blasphemy."



PART III

SNAKES are notoriously easily frightened by human beings, but I have noticed that they won't go far away if a person happens to pitch a tent near their home. Thus, we had a smooth green snake as a constant companion for a week in Carbon county one year, and another year at the same spot a common garter snake hung around and watched us curiously. They didn't seem to resent our camping beside them, and we didn't mind their unobtrusive presence. Just this past summer, also at the same place, we found a spotted salamander (the one with yellow dots on a shining black body) walking around inside our tent.

Snakes also figured in another camping episode in the summer of 1950. Four of us spent some time along the Octoraro Creek several miles below Atglen. The creek there runs through a rather wild section, and reptilian life abounds. In fact, even as we were standing on the spot where we had just decided to pitch our tents, a snake started racing away. I ran after it to see what kind it was, but it escaped completely in the tall grass, although I could see that it was bluish-grey in color.

Later, I was in the tent, heard a commotion, and looked out in time to see what was apparently the same snake slithering past the entrance. The next day, Ed Houseman came walking through the grass toward me, and the same (or an exactly similar) bluish snake literally leaped out of the grass and almost bumped into me in its flight before him.

The next day, Ed was digging for some worms right around the tent, when he called that the persistent snake had just crawled under a huge rotting log that lay only a few feet from one of the tents.

I saw its tail sticking out an inch or more, and hoping to find out what kind it was, tried pulling it out backwards by the tail. This didn't work, so I lifted the top of the log off. It was like a hard shell over the rotting interior, and when I threw it back I was completely astonished, for there was "our" blue-grey snake, and right beside it was a monstrous barred snake that

seemed as thick as a man's arm, and beside it was a big box turtle.

The blue snake went one way, the heavy barred snake went another, so fast that I still don't know what kind it was. The box turtle sort of hissed its dissatisfaction over such a disturbance and started to waddle away.

They had been practically living with us. I'm sorry I wasn't herpetologist enough to identify the big one with the barred body markings in the quick glimpse I got of it. It was too big and too far from the stream to be sure that it was a watersnake, which I thought it most resembled.

Almost a Lost Companion

I have never been bitten by a poisonous snake in Pennsylvania, but I almost lost a favorite dog to a copperhead in the Conewago Hills. There were so many copperheads in that particular part of the hills at that time that one of the knobs was called Copper Hill for that reason.

Prince, a shepherd dog, accompanied me down to the spring when I went to get some water for the house. He was snuffling about the brush around the spring, and I was just bending over to get a bucketful of water when I heard him yelp, sharply and in pain, twice. Without even stopping to think, I knew instinctively what had happened, dropped the bucket and grabbed up a big rock. I ran to where the sound had come from in a clump of elderberry and other plants. There was one of the biggest copperheads I have ever seen, coiled to strike again.

Much to my regret, I missed it with the rock, and it fled. I never did get it, by the way; but my interest then was principally in the dog. He had been struck twice. It was a hot day, and apparently his tongue had been lolling out of his mouth on the right side when the snake first struck him. One fang had pierced the tongue, the other had caught the side of his mouth. When it struck a second time, it hit him right below the corner of his right eye.

There isn't much you can do for a dog bitten like that. At least, I didn't know of anything that would help, so I made him comfortable under a shade tree at the house, and watched over him as he became sicker and sicker. The snake had been a whopping big adult with plenty of venom, and Prince nearly died; but toward evening he started to show some signs of recovery, and the next day he was perfectly well, lending support to the fact that a young, healthy, vigorous animal or human being probably won't die from the bite of a copperhead.

Among the Missing

This is an admission I almost hate to make, but there are two kinds of wildlife common to this State that I have never seen in Pennsylvania. Much as I have been in the woods, I have never come across a live rattlesnake or a black bear, although most of my fishing and hunting is done where they are relatively plentiful.

It is difficult to understand this. It is not that I haven' looked for them, and I'm not entirely unobservant; but I just haven't seen any.

At one place, where I have camped every summer for more than a decade, rattlesnakes are reported as being abundant, and one year a fisherman killed a 13-button oldster only a short distance upstream from our camp. But I have even hunted for them in a rocky stretch along the river where they are supposed to be numerous, and never found one. At times I have listened hopefully to a whirring buzz in the mountains, thinking it might be a rattlesnake, but it always turns out to be a cicada, or 17-year-locust.



I have no doubt that someone, knowing exactly where there is a family of rattlesnakes, could take me there and show me at least one; but I want to find it for myself. Besides, I remember Dan Brady and something that happened to embarrass him when he was superintendent at Hickory Run while it was a National Recreational Development Area. Dan told me he had a visitor, a snake collector, and Dan told him he knew where there were hundreds of rattlesnakes. They got on horseback, rode miles to the place, and Dan couldn't produce a single snake, although positive the place was infested with them as it always had been before. Chagrined, he rode the long miles home, and, of course, you know what happened—they found a rattler within a few hundred yards of the stable from which they had started in the morning.

I do not let any curiosity about rattlers blind me to the slight element of danger in snake country, and always observe the two primary safety rules which stood me in good stead in copperhead regions: Never step carelessly over a log or rock without knowing what's on the ground on the other side where your foot will come down, and never recklessly pull yourself up a steep place by reaching, without looking closely, for roots and saplings to aid your progress.



As for bears, they are non-existent, legendary animals that belong to Indian myths as far as my personal relations with them in Pennsylvania go. Yes, I have seen dead bears, killed by hunters who refused to believe that they were only mythical beasts. I have hunted them, too, in season, and saw none. I have come across their tracks many times when deer hunting, saw fresh droppings steaming in the cold, saw their claw marks on trees. Once, at the Log Cabin the Poconos, I heard excited talking on the porch and hurried out to find its cause—just in time to miss seeing a black bear walk across Route 115.

I have seen black bears in Maine, in many parts of Canada where they are often a nuisance around camps, and a year ago surprised a brown bear by drifting quietly up to it while on a float fishing trip on the St. Croix River in Wisconsin—but Pennsylvania has been a blank despite its large bear population. It's sort of frustrating.

Cold Cabin Cures

There is nothing more depressingly cold then the damp, chill air that greets the person who opens in midwinter the door of a cabin in the woods that has not been occupied since summer vacation time. We reached such a cabin at 2:30 o'clock one December night, already so numb from the cold trip that we could scarcely unlock the door. The cabin was near Brodheads creek below Canadensis, and we were going to use it for the second week of deer season.

That was in 1940, and I recall the incidents of the hunt fairly well, but the things best remembered are the creeping cold of that cabin, and the big trout that were in the spring-fed brook that ran from the cabin down to the Brodheads.

We built a good wood fire in the stove, and derived some warmth from it, but sleeping was difficult despite plenty of blankets. That was the last time I took blankets to a cabin like that in winter, switching completely to sleeping bags. Everything in the place had absorbed dampness, but it seems that mattresses especially acquire a particularly icy moistness that comes up through any thickness of blankets. After two days of steady heat, some of this dampness disappeared, but it was a bit grim at first.

The average city hunter quits work in the late afternoon, and starts right after dinner for the mountains, arriving at night. Actually, he should drive to his cabin or camp in the morning, even if it means missing part of a day's hunting, because he can work around the place in daylight, gathering and chopping wood, and keeping himself warm by physical exercise while the fire dries out the cabin. By evening, the place is comfortable and he can get a good night's sleep.

The sleeping bag is a great aid and comfort. Up north, the standard travelling gear of every man is a packsack *and* a sleeping bag or robe. He can put the sleeping bag on the ground, the snow, a board floor or a cold bed and be comfortable. In the case of a cabin in our own mountains, the sleeping bag on the bed will resist the creeping cold of the damp mattress. All are made with a water- or moisture-repellent outer covering, and they put more bulk under the sleeper, where it is most important, than can be achieved with blankets alone.

Best bag for lightest weight with the greatest warmth is the all-eiderdown bag. Next best is the part-down, part-feathers bag. Then come the wool and the kapok-filled bags. Finally, there is the waterproofed shell with blanket inside that has same uses, although not many.

Trout for Tomorrow

The person who visits the mountains in the early winter months and fails to note the "fall" spawning of trout is missing one of the more interesting things about the outdoors. The big trout we saw up the brook above the Brodheads might have been late in their spawning operations, or else present because smaller, spring-fed streams do not freeze as quickly as the larger ones.

Brook and brown trout are "fall spawners," but fall is usually well-spent by the time they spawn in Pennsylvania. Those seen the second week in December near Canadensis easily could have been just finishing up their nest-building and egg-laying chores.

Some ten years ago I watched brown trout working up Wallenpaupack Creek near Laana to spawn during the last week in October. We walked along the stream for some distance and saw many fish, but one was the largest brown trout I have ever seen in a wild state. I observed it as it lay motionless beside a sunken log for perhaps fifteen minutes, and am ultra-conservative when I say it was 30 inches long. Actually, it must have been a yard long and weighed nearly ten pounds. An 18-incher nearby looked like a baby.

Then, in 1948 Ira Knorr and I camped along the Lehigh River only a few days before Thanksgiving, and saw both brook and brown trout spawning in the same small tributary stream. There were some mighty big fish in the low water, and their backs and top fins would stick out as they swam away from us. Ira saw one spunky foot-long brook trout defend its nest against an encroaching big brown in a turmoil of water churned up by their fighting.

Next day I went with Ira to the spot, and sat down beside the brook trout's nest. It didn't flee, as wild trout normally do, but swam around in circles practically glaring at me. It was the closest I ever got to a brook trout without catching one on hook and line. Finally, I splashed my finger threateningly in the water near its nest, and the fish actually made a slashing pass with its teeth at my finger. There were two deep cuts on this male's back where the brown had wounded it the day before.

Trout are easy prey for almost any predatory animal, including man, when they are up small streams late in the year. The water usually is low and clear, they can be seen easily, they have to wallow over the shallows, and spawning makes them lose some of their native caution.

However, for the walker in the woods they provide an interesting sidelight. . . . *To Be Continued.*

SNAKE ACCOUNTS WANTED

Dr. M. Graham Netting, Assistant Director of Carnegie Museum, Pittsburgh 13, Pa., wishes to enlist the assistance of readers of PENNSYLVANIA GAME NEWS in a project that he has underway. He is endeavoring to assemble eyewitness accounts of amphibians and reptiles being killed, and sometimes eaten, by wild birds and mammals and by domesticated animals. He is particularly interested in firsthand observations of the reactions of domesticated animals to snakes. Biological literature contains many reports of stomach analyses which indicate what prey has been eaten, but do not afford any indication of the techniques of killing and eating. The place and date of the observation, the names of the animals involved, and the methods of killing and eating should be stated as accurately as possible. Recent observations are of greater value than those long remembered, for many persons unconsciously fill in the gaps in incidents that happened years earlier. Please give your name and address and indicate clearly that you actually witnessed the incident described. When the material is prepared for publication, proper credit will be given to observers who have co-operated in supplying information.



Tree Climbing Corn

SAXTON—While doing some food and cover work in an area where we had several game feeders in operation this winter, I had been observing ears of corn high up in trees stuck between two small limbs. I thought some of the other men had placed them there and they thought I had been putting them up there, each wondering how the other got the corn so high in the trees. As I went to fill one of the feeders one day, the mystery was solved. I saw an ear of corn going up a tree and taking a closer look, I discovered the squirrel that was carrying it. He stuck the corn high up in the tree and we presume that all these ears were carried up trees in the same manner.—District Game Protector John Hiller, Saxton.

Eager Beaver

FREELAND—John Beitel, of Freeland, holds the record for the fastest beaver catch of the 1951 season in this area. Off to a late start on the first day of the season, he arrived at Lake Olympus about noon. Not discouraged by the number of traps placed in all the good locations, he made a set in a small stream entering the lake. Just as he placed his second trap in position, he heard a loud splashing and looked up to see a beaver coming down the stream. John barely had time to jump to the bank before the beaver was fast in his trap. P. S. He had his second beaver the next morning.—District Game Protector Sam McFarland, Drums.



Upper Plate Needed

SMETHPORT—Grant W. Gruver, of Smethport, caught a most unusual beaver in Robbins Brook on February 16th. This animal had lost its upper teeth and the lower teeth had grown to a length of 4 inches, preventing the beaver from opening its mouth far enough to take any food. Mr. Gruver stated that although the beaver's pelt measured 58 inches, the animal weighed only ten pounds. There was no food in its stomach and it was slowly starving to death.—District Game Protector Bill Shirey, Smethport.

Holed Deer

ROXBURY—Rabbits, groundhogs, and foxes will run for a hole in the ground when chased but when a dog chases a deer into a hole, it should be news. One of the watchers at the Allegheny Tunnel of the Pennsylvania Turnpike told me this story. He was watching one end of the tunnel. A car drew up and stopped. The driver reported that he had just passed a dog chasing a deer in the mile and one half long tunnel. While they were talking, a doe deer came out of the tunnel followed by a beagle dog. The watcher caught the dog which had no collar or license tag.—District Game Protector John S. Dittmar, Loysburg.



Grouse with Crust

SINNEMAHONING—On February 7th Deputy Zoe Zekell was patrolling and filling turkey feeders on Lick Island Run above Sinnemahoning. As he traveled along the old forestry road, he noticed a grouse sitting on the hard crust of snow. The bird fluttered its wings as he approached but was unable to get off the ground. On examining the grouse, Zekell found that the bird had accumulated a ball of snow, ice and leaves on its tail until it had become so heavy that it had frozen fast to the hard crust. After breaking the tail feathers loose, the grouse took off on its own.—District Game Protector Norman L. Erickson, Emporium.

No Breakfast Eggs for These

MT. GRETNA—One of the chief causes of nesting losses among ringneck pheasants, I believe, is the large number of egg eating animals and birds found these days in some of the best ringneck cover. A large number of such animals can be taken with very little effort by interested persons on their way to and from their place of employment. For instance, on January 13, one of our Food and Cover Corpsmen, placed six traps on the Cavalry Field on State Game Lands 145 near Mt. Gretna. He checked these on his way to work each morning and gradually increased their number to 20. By the end of February he had trapped 35 skunks, 19 opossums, 3 raccoons, and a number of crows. One gray fox was dumb enough to step in a skunk set. This was better than a fifty dollar profit for crawling out of bed an hour earlier in the morning and stopping at several places along the way to work. How did he solve the problem of skunk scent in his car? This was no trouble at all. He just carried on old pair of gloves and several burlap sacks. The bagged skunks were simply hung up in the air in the morning and tied to the car bumper at night. On the way home he dropped them off, carcass and smell, with a fur buyer who paid as much as $1.75 on the carcasses of the Number Ones.—District Game Protector Charles Shannon, Mt. Gretna.

Who's That Knocking On My Door

PINE GROVE MILLS—While live-trapping rabbits this past winter I caught about everything that could get into the box traps but on February 9th I got a real surprise. I had been catching a good many squirrels and as I approached one of my traps on that day, there was a big racket inside. Slivers flew from the trap door and I fully expected to find another squirrel inside. Instead, out came a big flicker. This bird didn't seem to mind his experience as a bird in a "cage" and remained around the orchard during all the time I was trapping thereafter.—District Game Protector Sam Reed, Pine Grove Mills.





Henry Detrick, right, and his son Francis managed to down these wild dogs, caught in the act of running deer near Kane.

Wild Dogs Raze Kane

A snarling pack of savage wild dogs —one of many ranging over forest lands killing deer and great quantities of small game, was wiped out completely in a hail of bullets after they had twice attacked farmers within three miles of Kane this Spring. Henry Detrick, owner of a large farm, was attacked by the dogs as he carried a bag of corn to be placed in a game feeding station. He managed to beat off the dogs with a steel fence post until he could escape over a fence. He returned home for a gun and was accompanied back to the scene by his son Francis.

Once again the pack moved in with fangs bared and the farmers opened up with a high power rifle and shotgun. The kill, examined by State Game Protector William Carpenter, of Mt. Jewett, included three full grown husky mongrels and ten pups.

Carpenter, who had constructed the game feeder station on the Detrick farm, had been attempting to trap the dogs in that section following numerous reports of activities of the pack. The dogs, only a short time ago, ran deer into the yard of the Lindhome farm residence in the same area and one of the big dogs was shot.

Hunters have dropped many of the wild dogs in the past several years. One hunter killed three large dogs which were rapidly overtaking a doe. Through the winter, the dogs find deer easy prey. The deer flounder through the snow and the pack moves over it for easy kills.

Most of the dogs killed thus far have been mongrels, but some of the wild dog packs include good hunting dogs. One large pack ranging in the Duhring area south of Kane was led by a beautiful black and white English setter. A huge black German shephard dog led another pack in the Tionesta East Branch area west of Kane. Leasemen covering pipe lines north of Kane in the Meade Run section—and near Burning Well, southeast of Kane, have reported wolf-like packs of wild dogs.—John B. Cliff, Kane.

As the Crow Flies

SCHUYLKILL HAVEN—Ceylon Gilbert and Roney Honicker of Schuylkill Haven were trapping for weasels near the Schuylkill Haven Fish and Game Refuge and found a crow caught by its leg in one of their traps. After killing the crow they noticed a No. 1 Oneida jump trap was attached to the other leg. This trap carried a new plate of Clair Zimmerman, RD 1, Pine Grove. Gilbert notified Zimmerman as to how he got possession of his trap. The distance between these two points is ten miles and it is readily understandable how some traps disappear if not securely staked.—District Game Protector John Spencer, Schuylkill Haven.



Montgomery County Historic Home of Valley Forge

Ninth in a Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

MONTGOMERY County in southeastern Pennsylvania is known to millions of Americans who have visited its hallowed shrine at Valley Forge. Formed from part of Philadelphia County in 1784, it is named for General Richard Montgomery, soldier-patriot of the Revolutionary War.

Land Area

The county contains 317,888 acres of which 64,974 are forested and 252,914 acres are non-forest land. There are 178,472 acres in farms. There are no State Game Lands or State Forest lands in the county.

Topography

The county's contiguity to Philadelphia, its location in the rich Piedmont lowland and its long frontage on the Schuylkill River has brought a diversity of manufacturing establishments and great suburban development. Principal streams are the Schuylkill River, the Perkiomen, Tacony, Wissahickon, Neshaminy and Skippack creeks.

Transportation

Railroad transportation is furnished by the Pennsylvania and Reading lines and interurban electric railways. The Benjamin Franklin Highway (U. S. 422), the Lackawanna Trail (U. S. 611), and other important routes traverse the county, which has 777 miles of improved State highways.

District Game Protectors

Ambrose Gerhart, 141 Central Ave., Souderton, has jurisdiction over Upper and Lower Hanover, Marlborough, Upper and Lower Salford, Salford, Franconia, Hatfield, Douglass, Upper and Lower Frederick, Towamencin, West, Upper and Lower Pottsgrove, Limerick, Perkiomen, Skippack, and Upper Providence townships.

William Shaver, Schwenksville, has jurisdiction over Montgomery, Horsham, Upper and Lower Moreland, Upper and Lower Gynedd, Upper Dublin, Abington, Worcester, Whitrain, White Marsh, Springfield, Cheltenham, Lower Providence, East and West Norriston, Plymouth, Upper and Lower Merion townships.

Fish Warden

Harry Z. Cole, 877 Cherry Street, Norristown.

District Forester

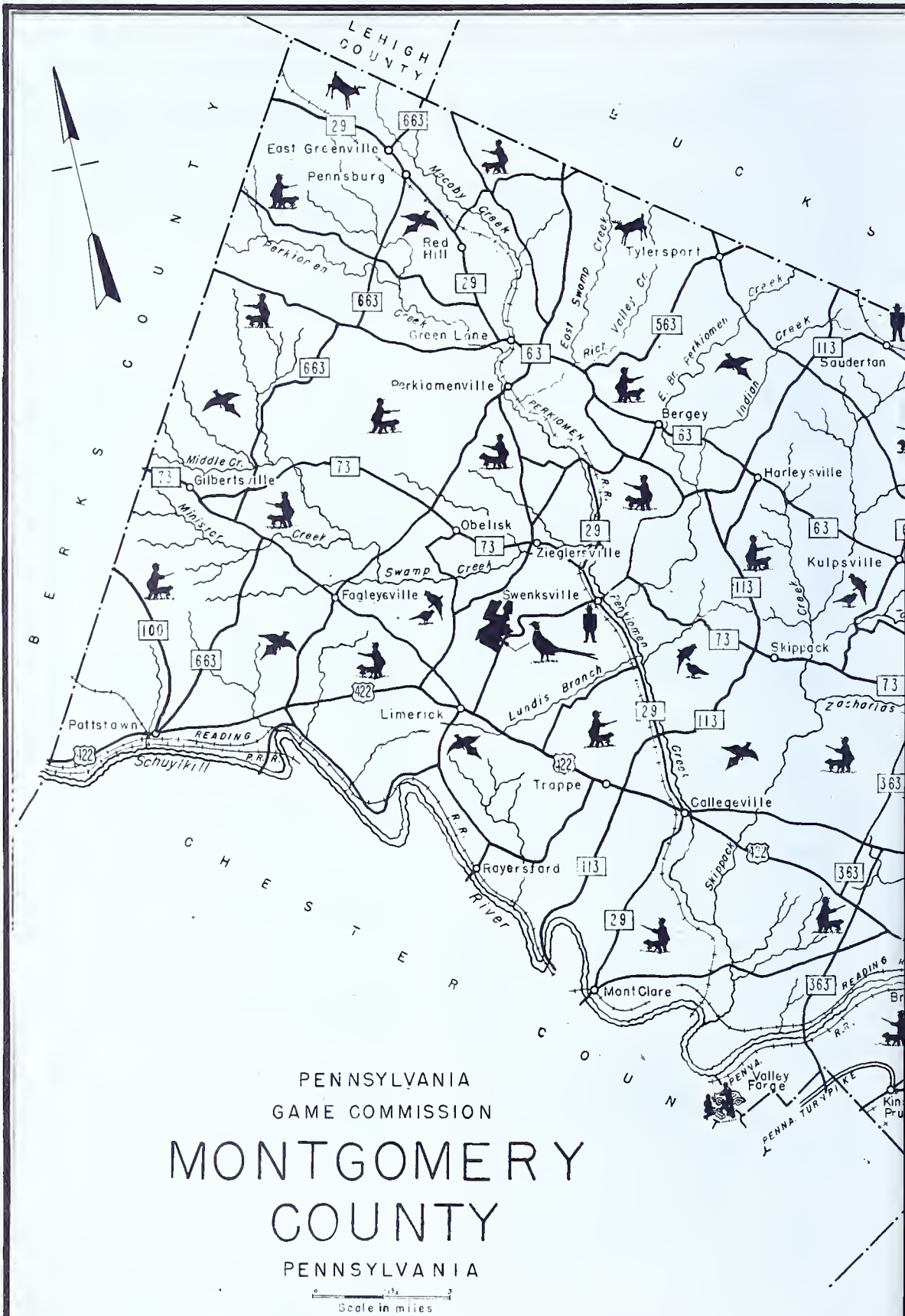
Wilford P. Moll, 1983 W. Main Street, Norristown.

Agriculture

Intensive agriculture is carried on in some parts of the county. The chief products are milk, truck produce, corn and fruit.

Industry

As one of the great manufacturing counties of the Commonwealth, Montgomery County has played an important role in Pennsylvania's wartime and peacetime history. In 1788 Hatboro was famous for the manu-



PENNSYLVANIA

GAME COMMISSION

MONTGOMERY COUNTY

PENNSYLVANIA

Scale in miles

Pennsylvania's Springtime Birds

A "Game News" Conservation Education Pamphlet

MAY, 1951



Note: This special insert in the GAME NEWS is designed for conservation education use. It may be removed intact without damaging the magazine by simply loosening the upper and lower staples through the center pages. Do not remove the staple in the middle—it will retain the pamphlet pages intact.

Bird Migration

BIRD migration has interested, and baffled, men for centuries. The astonishing regularity of their seasonal arrivals and departures from an area has long been one of the great unsolved mysteries of nature. Despite the most intensive research, the reasons for bird migration, the whys and hows of their inter-continental flights, remain unexplained. All theories about migration have stumbled on the block of the young bird who alone and for the first time finds the way to its winter home in fall and returns to its birthsite the following spring.

Early explanations of migration included such beliefs that birds spent the winter in hibernation or that they flew to the moon and back each year. Later, more serious study of birds and their habits led to the belief that bird migrations were originally caused by the advance and recession of the great glaciers which covered much of the earth in pre-historic times. The most recent theories, however, indicate that some external stimulus—light, temperature, barometric pressure, weather or activity of the bird—sets in motion the mechanism of migration. Food supply, it is known, has no direct bearing on migration for many birds start their semi-annual flights long before summer or winter foods are exhausted.

More uncertain is the explanation of how birds find and follow their regular migration routes or "flyways." Through widespread banding of waterfowl and many other species of birds, it has long been known that migratory birds follow certain routes from summer to winter homes, some birds even returning to the exact nesting or wintering spots year after year. They apparently have an instinctive sense of direction and a remarkable topographic memory. The most recent theory, advanced by research workers at Pennsylvania State College, indicates that birds are guided along their migration routes by magnetic fields of force.

Many of our songbirds do most of their migrating at night, feeding and resting during the day. Migration is usually slow, the birds moving less than 100 miles a day. Some ducks, however, fly more than 200 miles daily and the Hummingbird even makes a 500 mile non-stop flight over the Gulf of Mexico. Most migrants travel only a few hundred feet over the earth but the herons, vultures and hawks may migrate at a height of more than 5,000 feet. The champion long distance migrant is the Arctic Tern which annually covers 25,000 miles between the North and South Polar regions, most of the way over water. More than 100 species of North American birds, however, spend the winter in South America.

Although man has conquered the atom, he has yet to solve the mysteries of bird migration. But solved or not, bird migration has played a part in shaping the course of human affairs and may even have influenced the development of a continent. On October 7, 1492, Columbus was hundreds of miles off the coast of America. His discouraged sailors were on the verge of mutiny when numerous small land-birds, flying southwest in migration, crossed the bows of the Santa Maria. The sight of these birds raised the hopes of these historic explorers and, altering their course, they sailed on to the greatest discovery of all time.



Color Illustrations Courtesy Philadelphia Sunday Inquirer

1. Black-throated Blue Warbler. 2. Yellow Warbler. 3. Myrtle Warbler. 4. Chestnut-sided Warbler. 5. Eastern Bluebird. 6. Magnolia Warbler. 7. Scarlet Tanager. 8. Eastern Hummingbird. 9. Ruby-throated Hummingbird. 10. Rose-breasted Grosbeak. 11. Redstart. 12. Barn Swallow. 13. Blue-winged Warbler. 14. Baltimore Oriole. 15. Wood Thrush. 16. Cardinal. 17. Robin. 18. Black-throated Green Warbler. 19. American Goldfinch. 20. Blackburnian Warbler.



ROBIN, February 15-25

A few courageous robins spend the winter in Pennsylvania, but the advance guard of the migrants are usually our first spring birds. These early arrivals wintered perhaps only as far south as Maryland.



BLUEBIRD, February 25

Some bluebirds, too, brave the Pennsylvania winters, particularly in the southeastern counties. Famous in song and story, their liquid notes drop cheer from bleak February skies.



PURPLE GRACKLE, February 27

The big, noisy grackles arrive in flocks and announce their return with a loud chatter through the tall pines. They repeatedly choose the same trees, year after year, for their early nesting sites.



RED-WINGED BLACKBIRD, February 27

Echeloned flight formations of redwings, with the males always in the first wave, arrive with, or just after, the grackles. Their liquid "okalees" are heard here in chorus with early spring peepers.



COWBIRD, March 1

Cowbirds are the parasites of the bird world, who rely on other birds to hatch and raise their young unwittingly. They strut around in our fields and pastures in early March, often with the blackbirds.

TURKEY VULTURE, March 1

The graceful sweep of the turkey buzzard's wings belies his unpleasant appearance when viewed close at hand. His soaring flight is an early harbinger of spring. Some vultures winter within the State.



WOODCOCK, March 6

"Timberdoodle" and "Bogsucker" are two of the local names for this erratic game bird. To reach his courting grounds for his nuptial sky dance, he makes his spring flight by the Mad March Moonlight.



PHOEBE, March 10

The first of the flycatchers to reach us each spring, the phoebe may be seen perched atop some high weed stalk, on the lookout for early insects. This is one of our most valuable wild birds.



FLICKER, March 10

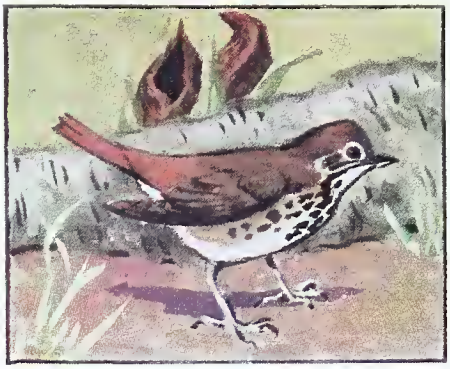
"Wicker-wicker-wicker!" is a sure sign of spring. Small groups of this ladder-backed woodpecker, newly arrived from the south, join the few hardy flickers who wintered in southern Pennsylvania.



VESPER SPARROW, March 12

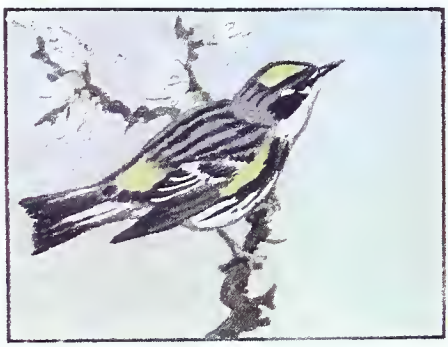
Vesper's clear, plaintive song often will be heard along the fencerow, when the furrows between the corn stumps are filled with snow. Look for his white outer tail feathers when he flies.





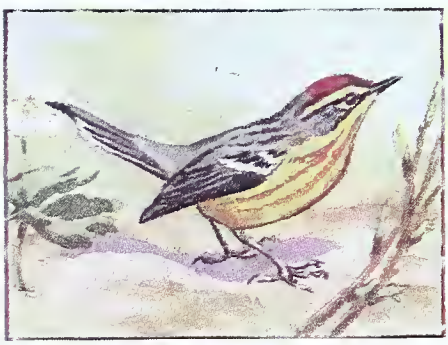
HERMIT THRUSH, March 15

You must seek the northern woodlands of the State to hear the hermit's haunting chimes. He reaches Pennsylvania a full month earlier than does his larger cousin, the wood thrush.



MYRTLE WARBLER, April 5

First of the warblers to reach us, the early myrtles are often still in their brown, duller, winter plumage. The one in the picture wears his bright spring wardrobe. Occasionally these birds winter here.



YELLOW PALM WARBLER, April 7

Always one of the earliest warblers to arrive each spring is the yellow palm warbler. Look for him on the ground, near low bushes. Watch him wag his whitetipped tail nervously.



BLACK AND WHITE WARBLER, April 8

The conspicuous and easily identified black and white creeper is the only bird, besides the nuthatch, which can come down a tree trunk head first. He is always among the vanguard trio of warblers.



OSPREY, April 8

The crook-winged osprey is the first of the non-resident hawks to appear in the cloud flecked April sky. He will be seen gliding below the clouds on the lookout for some good fishin' hole.

TREE SWALLOW, April 8

This steely-blue and white, scimitar-winged flight perfectionist darts and skims over our waterways in early April. Later he and she will pick out some tree hole for their summer residence.



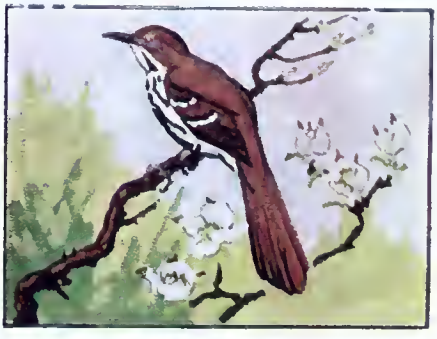
BARN SWALLOW, April 10

The familiar swallow of our wagon sheds and haylofts is the first bird to reach us that may have wintered on the Equator. These well-traveled birds spend the winter from Mexico to the Argentine.



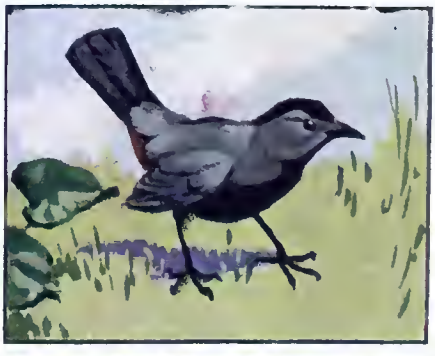
BROWN THRASHER, April 10

A most accomplished songster, this bright, long-tailed thrasher with his eye of gold, returns to Pennsylvania from his winter's migration when the dogwood buds are unfolding.



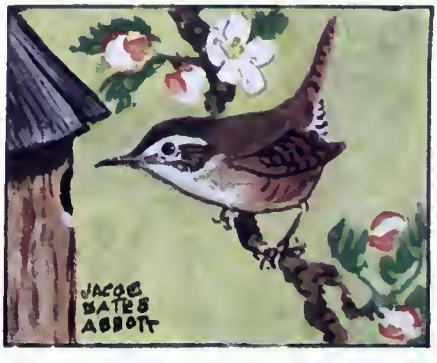
CATBIRD, April 15

Favorite of many yet displaying no glamorous colors, the catbird's song rivals the mockingbird's and thrasher's. She lays 3 or 4 of the most beautiful sea-green eggs known to science.



HOUSE WREN, April 20

His rollicking, bubbling song fairly bursts from this tiny atom of feathers. He likes to nest near your porch. Won't you hand out a bird-house for him? Mind now, make the hole just the size of a quarter.



Songbird Conservation -- Why?

THE answers to the question, "What good are birds?," are so obvious that they are often overlooked. Some biologists have even opinioned that without birds no human being could live upon the earth; that insects would destroy all vegetation. Because of their tremendous value in destroying harmful insects, estimated to be at least $7,000,000 annually in Pennsylvania alone, songbirds should be of vital concern to everyone. In addition many songbirds play an essential role in the control of weeds, others act as scavengers cleaning up refuse to purify the great outdoors. Thus, in many ways, songbirds have a valuable effect on man's food supply, health and financial resources. But, finally, songbirds add immeasurably to our enjoyment of life. The first robin of spring intrigues thousands of winter-weary Pennsylvanians; the flashing red cardinal that streaks across the yard on a winter day will cause the most casual observer to stop in admiration; the wild aria of the wood thrush will stop the busiest city dweller in his tracks; and what the dainty nest of a yellow warbler in the rose bush does to an otherwise busy family is amazing.

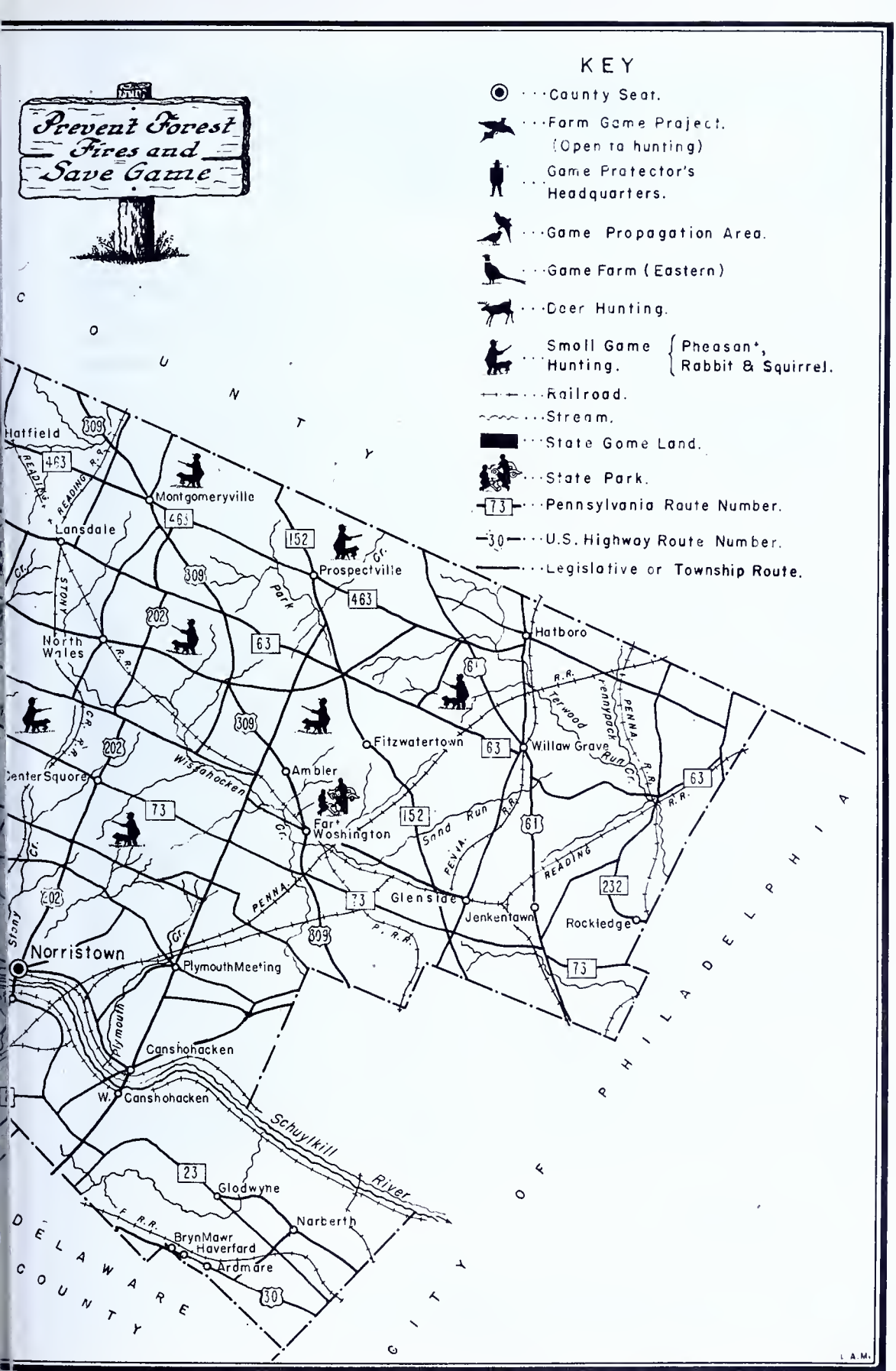
Songbird Conservation -- How?

GONE are the days of the plume hunter and market gunner who killed and sold barrels of birds for pennies. But even today there is still great need for more public understanding of birds and the ways in which they effect mankind. The basic foundation of songbird conservation must lie on the bedrock of human education and interest.

In Pennsylvania all songbirds are now legally protected except the Blue Jay, English sparrow, European starling, kingfisher, and crow. This protection is afforded by sections of the Game Code of Pennsylvania administered by the Pennsylvania Game Commission, the only state agency committed by law to the protection, restoration and conservation of our native birds. It is unlawful, for example, to possess or to wantonly interfere with or destroy bird nests or eggs. The law further prohibits the possession or sale of all protected birds and their killing except in certain cases of crop or domestic livestock damage and then, only when a protected bird is caught in the act.

But in addition to protection, songbirds need constant study and encouragement. We take songbirds for granted all too often because enjoying them does not demand that we understand them. Yet songbirds are often the only pleasant contact that many people have with nature. This contact can be made much more pleasant by providing them with homes in summer, feeding them in winter, planting trees and shrubs for food and cover, maintaining sanctuaries, providing water, and guarding against their natural and human enemies.

More detailed information on bird conservation is included in "Pennsylvania Birdlife," published by the Game Commission and available from Harrisburg and field division offices at $.50 a copy. Bird identification may also be facilitated through the use of four colored bird charts published by the Commission at $1.50 a set.


Prevent Forest Fires and Save Game
KEY
County Seat.
Farm Game Project. (Open to hunting)
Game Protector's Headquarters.
Game Propagation Area.
Game Farm (Eastern)
Deer Hunting.
Small Game Hunting. Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Game Land.
State Park.
Pennsylvania Route Number.
U.S. Highway Route Number.
Legislative or Township Route.
Hatfield
Montgomeryville
Lansdale
Prospectville
North Wales
Hatboro
Fitzwatertown
Willow Grove
Ambler
Fort Washington
Center Square
Glenside
Jenkentown
Rockledge
Norristown
Plymouth Meeting
Conshohocken
W. Conshohocken
Schuylkill River
Glodwyne
Narberth
Bryn Mawr
Haverford
Ardmore
DELAWARE COUNTY
PHILADELPHIA CITY
Park
Cr.
Run
R.R.
READING
PENNA.
309
463
152
202
63
73
61
232
30
23

facture of hats for the Continental Army. Iron and textile manufacture was started on a large scale in Conshohocken in 1850. Today, the principal classes of manufacturing industry are metals and metal products, food, textiles and textiles products, leather and rubber goods. The chief products are structural iron and steel, woolen and worsted yarns, rubber tires, motor vehicles, silk hosiery, pig iron, asbestos products, stoves, heaters and ranges, men's clothing, beer, boilers, tanks, stacks and drums, iron and steel sheets and plates, pipes and tubing, automobile parts, aircraft and parts, machinery and machine tools, shirts and bakery products.

Historic

The early Welch settlers spread into the lower part of this region in 1682. After 1700 the German influence began to be felt. Pottstown was laid out in 1752, founded by John Potts, one of the foremost iron masters in the State. The county played a conspicous part in the Revolution. Washington and his army crossed the county on their way to Brandywine and entered it again in December, 1777, for the famous winter at Valley Forge. The site of this encampment, lying at the southern edge of the county against the Chester boundary, is the most important historic shrine in the county and perhaps in the State. Other landmarks of historic interest include: *Audubon,* the home of John James Audubon, famous naturalist; *Fort Washington Park,* in Whitemarsh Township, including Militia Hill and Fort Hill; *Hatboro,* scene of the Crooked Billet massacre of Americans by the British in 1778; *Montgomery Square,* three miles from North Wales, the birthplace of General Winfield Scott Hancock of Civil War fame, who was the Democratic candidate for the Presidency of the United States in 1880.

Recreation—Hunting

Montgomery County offers good small game hunting principally for pheasants, rabbits and squirrels. There are several Cooperative Farm-Game projects located in the county.

State Recreation Areas

Fort Washington State Park, including Militia Hill and Fort Hill, on which was erected historical Fort Washington, is located in Whitemarsh Township on U. S. Route 309 and State Highway Route 73.

Valley Forge Park, located on State Highways Nos. 23 and 83 near the terminus of the Pennsylvania Turnpike at King of Prussia, covers 2,033 acres and is open to visitors daily all year. The Park includes the major portions of the original encampment which the Commonwealth is restoring to its original condition. Washington's Headquarters is the focal point of the Park; other features include soldier's huts, field fortifications, hospital hut, bake-ovens, Varnum's quarters, Penn School and remains of the old forge on Valley Creek. Relics are displayed in the Museum. An observation tower affords scenic views and the natural setting is unsurpassed for beauty. The spring dogwood display is nationally famous. Picnic groves and tourist camp and restrooms are maintained for the convenience of visitors. No charges are made except for guide service.





Wildlife Loss On Indiana County Highways May Serve As Index

Indiana County naturally lends itself to certain general wildlife conclusions. It lies about on the dividing line between the northern and southern tier counties of the state. The county's land area is divided about equally between agricultural and wooded acreage. Farm and forest game species and fur-bearers found in Indiana County include about all those found anywhere in the Commonwealth, and many deer and an occasional bear make that county their home.

It seems reasonable, then, to take the information herein given as a fair indication of the average wildlife kill on the highways of many Pennsylvania Counties. This data was carefully compiled by Earl H. Pfeiffer, District Superintendent, Department of Highways, Indiana, Pa. The totals do not, of course, include many deer removed from roads by game protectors or the many injured birds and animals that eventually die off the road after being struck.

Here are Pfeiffer's figures on wildlife killed by vehicles on Indiana County's main highways during the three years 1948, 1949 and 1950: rabbits, 7520; ringneck pheasants, 250; deer, 34; woodchucks, 344; squirrels, 187; skunks, 740; raccoons, 75; opossums, 2357; weasels, 18; muskrats, 13; minks, 2; foxes, 1; porcupines, 3; grouse, 62; quail, 9; woodcocks, 7—a total of 11,622.

Of the road-killed domestic fowl and animals listed on Pfeiffer's three-year record, cats led the Indiana County list with 1399. Dogs were second, with 906 and chickens followed, with 290.

107,000 Pheasants Available for Spring Liberation

The Pennsylvania Game Commission has announced that this spring will see the largest liberation of pheasants ever in the history of the Commonwealth when, under a new program, over 107,000 of these birds will be released in favorable habitat.

In recent years, Pennsylvania's pheasant program has been vastly improved. The day-old chick program, carried on by sportsmen's organizations, Farm-Game cooperators and individual farmers has played a definite part. So has that of the sportsmen who raised chicks and held the hens over winter, following which one cock bird was supplied for liberation with every ten hens held until spring.

Taxidermy Examination Set

FOR JUNE 6th

The 15th Taxidermy Examination will be held Wednesday, June 6, 1951, at 10:00 a. m., E.S.T., in the Game Commission's Bounty Office, Temporary Building No. 1, at Harrisburg. The examining board consists of Mr. Harold T. Green, of the Philadelphia Academy of Natural Sciences, Chairman; Mr. M. J. Kelly, of Scranton's Everhart Museum; and Mr. James Kosinski, of Carnegie Museum.

Interested applicants for taxidermy permits should contact Wildlife Conservation Division Headquarters nearest them for application forms.

Pennsylvania's Wildlife Conservation History

CHAPTER VIII
MONEY AND LAND POSE NEW PROBLEMS



THE four major strides ahead were not without their difficulties. Each step presented its own particular problem. Some of the details seem minor when put down on paper today, but at the time they were necessary to the needs and demands of the moment. It is interesting to note some of the changes brought about by the years.

For instance, that little matter of the license tag that you wear in the middle of your back. Why do you suppose you wear it that way, instead of in the form of a button, an arm band or some other manner of identification?

Originally, the hunters license law was passed with the provision that the tag should be worn on the back of the sleeve between the elbow and the shoulder in such manner that the figures be visible at all times, while hunting. Two groups immediately reacted to this ruling. One was our old friend the Hunters' and Anglers' Protective Association's alarum-cry that this would make the hunter look like criminals with markers on their sleeves. The other was the argument of the farmers who wanted some quick means of identifying unscrupulous hunters in the fields.

In answer to these problems the ruling was changed and new specifications called for a license tag with numbers at least one inch high to be worn on the back of the hunting coat, and thus Pennsylvania originated this method when the license law was passed. From 1913 to 1923 the tags were made of fabricord. In 1924, aluminum was used; from 1925 to 1940, coated tinplate was used. Then in 1942, vulcanized fibre was employed since the war made tin unavailable. One can view a very interesting collection of these tags from the verv first to the present on the walls of the Game Commission's office at Harrisburg.

The original license period was the calendar year. This was changed in 1923 so that the period ran from May first to April thirty, next following. In 1931, the present license period of September first to the next August thirty-first was fixed by the legislature.

Safeguards against fraud in obtaining licenses had to be established from the very beginning. The 1923 forms contained space for a description of the applicant—color of hair and eyes, height, marks or scars. In 1921 the licensees were required to sign their certificates. Beginning in 1923, the applicant had to establish his identity by producing bank book, lodge or police cards, driver's license or other acceptable means. Non-residents (whose license fee went from $10 to $15 in 1923) were to find it difficult to obtain fradulently a resident's license. The non-resident fee was made reciprocal with other States in 1931, with a $15 minimum; but was changed back to a straight $15 charge in 1937.

The 1913 act provided that boys under 14 could not get a license and boys under 16 had to have the signature of parents or gurdians. By 1923, the reins were tightened a little and boys under 16 had to be accompanied by an adult when hunting. Boys 12 to 14 were licensed and allowed to hunt under the 1937 act; however, they had to be accompanied by some member of their family 21 years or older; boys 14 to 16 had to be accompanied by some adult at least 21. These were safety provisions, of course. All persons physically or mentally unfit were barred from carrying firearms as a further safety precaution by an act passed in 1923.

The actual license sales caused the Commission some headaches from the start. County treasurers issued them under the 1913 act, but justices of the peace also could furnish certificates and tags to applicants. This was amended in 1921 so that justices of the peace were restricted to taking applications only, forwarding

these to the county treasurer who issued the tags. The justices could charge 15 cents, the county treasurers 10 cents, for each license.

The State Department of Revenue, which now handles all the details of issuing licenses, did not take over until 1929. Until that year, the Commission itself arranged for the sales, prepared the forms and attended to all other matters. After 1929, the Revenue Department relieved the Commission of license sales details, even to revoking licenses upon recommendation of the Commission. Beginning in 1937, the Revenue Department appointed agents in addition to county treasurers to handle license sales. These bonded agents make it possible for the hunter to obtain a license near his home without going to the county seat.

The wisdom of the residents hunters' license law has been apparent since its inception. The income from it passed the million dollar mark for the first time in the 1927-28 fiscal year and now it is pushing the two million mark with more than 800,000 resident hunters and an average each year of about 10,000 nonresident license holders. It finances annually the entire hunting program for more than a million gunners (because there are at least 200,000 farmers and tenants who do not require licenses, in addition to the 800,000 licensed). The only other Commission income is from such relatively minor sources as fines, sale of confiscated equipment and such items.

Since it has been seen how closely the game refuge and the land purchase systems are linked it is interesting to follow their progress in those early days.

Two flaws developed early in establishing refuges on State Forest Department land and on land leased from individuals. Complaints were made by Commissioners that, as soon as a refuge became established, the Forest Department leased cottage and hunting camp sites—"practically on top of the wires." The increase of wildlife in the refuge was an attraction to campers for they had a zoological garden right in their back yards. However, these tenants interfered with the wildlife and hunting. The only relief promised for this situation was that new cottages would be kept at least a half mile from the refuge wires.

The other flaw soon came to light when it was found that the increase of wildlife on refuges established on lands leased from individuals so improved the value of the property that the owners were unwilling to renew the leases at a price within the Commission's means. The fire protection given the refuges also improved the value of woodland on them.

From these flaws was born the idea of sportsmen-owned refuges, surrounded by public shooting grounds. The idea was carried to the sportsmen and they approved it. The real growth of our refuge system dates from the year 1920 start towards purchasing public hunting grounds with the heart of each tract reserved as a refuge for game.

One of the first policies adopted was to bar all camping of any kind on State hunting lands. This was the result of the Commission's unfortunate experiences with refuges located on forestry land which was open to camp sites. It did not want a fortunate few campers as against an unfortunate many who couldn't obtain camps. This policy was maintained from the beginning until 1937 when it was written into the law and still is in effect.

Since such publicly owned lands are not subject to taxes, the Commission immediately began a policy of compensating local governmental agencies for the loss of taxes.

The legislature authorized the



Early game refuges were administered by a salaried refuge keeper who cut boundaries, strung wire, posted signs, and patrolled the area constantly. Dwelling houses, such as the one shown above at Refuge No. 1 near Renova, Clinton County, were provided by the Commission.

Commission to pay a yearly fixed charge in lieu of taxes. This is divided, one cent to the county for county purposes, two cents each for roads and schools in the township where the land is located.

The land purchase program was very popular and expanded fast. By 1936, the Commission had acquired game lands totalling more than 500,000 acres in 52 counties, and most of the tracts contained refuges. More than 100,000 additional acres were in refuges on State Forest and other publicly owned lands, and in auxiliary refuge projects. The Commission policy was changed in 1936 and it was decided to curtail purchases of land in remote forest areas and to acquire more marginal and sub-marginal ground that would benefit small game. At the same time, the cooperative farm-game project system was started under the auxiliary game refuge act near the State's large cities.

The farm-game project is, in effect, a method of getting land thrown open to public hunting in sections ordinarily posted against gunning by offering the farmer protection for himself, has family and property as well as other benefits. Farm-game projects also contain small refuge or retreat areas.

Management of game refuges today differs greatly from that of yesterday. At first, a salaried game refuge keeper was assigned to each refuge on State forests, each leased project and for each unit block of State Game Lands.

These refuge keepers had to cut boundaries, string the wire, post refuge signs, patrol the land almost constantly and protect it against forest fires and violations of the game, fish and forest laws. Dwelling houses (sometimes little better than shacks) were provided at first, usually miles from improved roads, food supply sources and medical supplies.

Conditions were improved in 1923 with the erection of new dwellings and the construction of dirt roads to headquarters; but the State was acquiring too many land units by 1927 and some of these went without a refuge keeper because it was too costly to hire one for each unit. At a meeting May 2, 1931, the Commission decided that district game protectors should take on such duties in their areas where no regular refuge keeper was assigned. It decided, too, on an experimental plan of grouping all unit blocks of State game lands, refuge and auxiliary refuge projects in a specified territory and assigning a caretaker for the lot.

This experimental plan worked well and it was adopted for the State as a whole and put into effect in 1936 with provisions for 44 management groups. Thus, the colorful game refuge keeper and his title went out of existence.

Through the years strict adherence has been paid to the rule that no one is allowed inside a game refuge set apart by a single strand of boundary wire, except on official business. If seriously wounded game enters a refuge, the hunter can notify the caretaker or game protector. The hunter, unarmed, may accompany the officer inside and the game will be given to him if mortally wounded. The same rule applies to auxiliary game refuges of general classification, while farm-game auxiliary refuges may be entered for the above purpose by any duly commissioned officer or authorized agent of the Commission.

State game lands and their refuges not only benefit hunters, but the natives of the sections where they are located profit through money the hunters spend for guides, board, provisions and other supplies. A banker-sportsman, in writing to the Commission for a refuge in his area, cited such a case of local profit. "We sent a notice of a note soon maturing," he wrote. "The reply (from a borrower in a mountain district) was, 'I cannot pay the note until after the gunning season when I will receive from Pittsburgh gunners for board and lodging sufficient funds to pay the note and interest'."

There are some special refuges and preserves in the State. In 1911, the Water and Power Resources Board was authorized to permit parts of the Pymatuning Reservoir to be used for fishing, hunting, game refuges and recreation; but it wasn't until 1935 that a game refuge was established there in the form of the first migratory waterfowl refuge in the State.

Special State preserves for dog training were authorized and started in 1937, with the first one set aside in Elk County and the second in Montgomery County.

The bow and arrow was made legal for hunting in 1929, and in 1937 the Legislature authorized setting aside two preserves of not over 1000 acres each for the exclusive use of archery hunters. They were established that year, the first one on State Game Lands Number 13 in Sullivan County, and the second in Forest County on the Allegheny National Forest.

The Commission's game propagation areas naturally are strictly off-limits for hunters, and there are special wildlife refuge projects run by sportsmen's organizations which are governed like auxiliary game refuge projects.

All in all, the Pennsylvania hunter is quite a landowner and manager.

. . . *To Be Continued.*



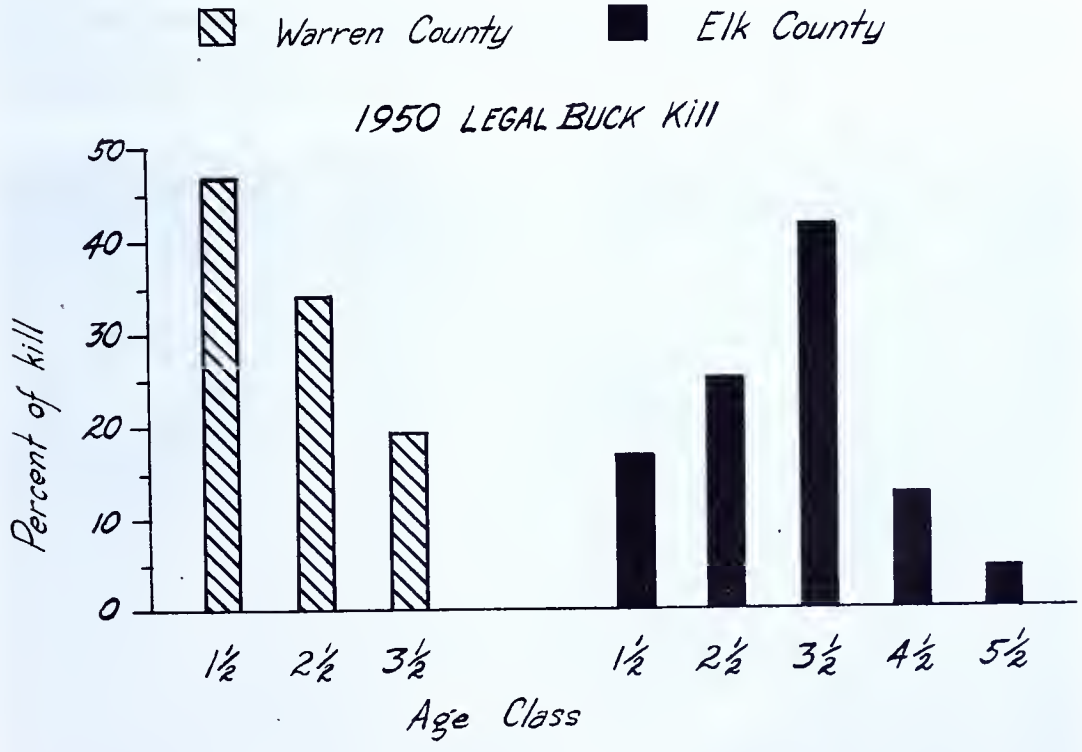
Which Would You Choose?

By STANLEY E. FORBES

THE old adage "The grass is always greener in the other fellow's yard" may contain more truth than many men wish to admit. To illustrate this point, let us assume that the "grass" is deer browse and then consider the deer situation and the condition of the range. Range conditions, or the quality and quantity of food, are reflected in the growth of the deer, more specifically in their weight and in their antler development. The antler development in turn determines the legality of the buck.

During the open deer season in 1950, crews of men from the Wildlife Research Division of the Game Commission were in the field weighing and aging deer. After the data were compiled and analyzed, it was found that two counties within the traditional big game country, Elk and Warren counties, showed marked differences in the percentage of composition of age classes killed. This, in turn, was interpreted as being indicative of the condition of the range in these counties.

All legal bucks shot in each county could not be weighed for obvious reasons; however, the percent of the total kill that was weighed and aged in each county was great enough to represent a significant sample. Although the figures shown by the graphs illustrate the data collected in the sample, they can be applied generally to the kill as a whole. Despite the fact that only 585 legal bucks were killed in Warren County as compared to 863 legal bucks killed in Elk County, the whole picture is not shown by the total kill. Many



variable factors influence total kill. Particularly was this true during the past season when adverse weather was the rule and not the exception. The differences in the percentage of composition of the age classes represented in the kill is considered more important than the total kill.

Almost half (46.8%) of the legal bucks killed in Warren County were 1½ years old, whereas this age class was represented by only 1/6th (16.7%) of the total kill of legal bucks in Elk County. The age class having the greatest proportion of the total kill in Elk County was the 3½ year group. No bucks were aged at more than 3½ years in Warren County but many bucks up to 5½ years were found in the Elk County kill.

You say "So what!" Well, we are all optimists at heart, but who likes to go out hunting all day or all season without the possibility of seeing "THE" buck? Certainly, being able to observe large numbers of illegal deer won't make up for that disappointment.

Take another look at the graphs. Don't they indicate that the turnover of legal bucks in Warren County is more rapid than in Elk County? Isn't it fair to assume that most bucks are shot when they first become legal or at least during the next seasons? The picture presented seem to bear out this assumption. Warren County produces legal bucks as yearlings and almost half of the total kill is within that age class. On the other hand, the greatest proportion of the kill in Elk County falls within the 3½ year age group. The proportionate distribution of the kill in the 1½ and 2½ year age classes indicates that on the average it takes longer to produce legal bucks in Elk County than in Warren County.

Remember, *a buck does not have to go through the "spike" stage.* When this does occur, the situation is not normal. With good range conditions and a properly balanced sex ratio within the deer herd, there will be no need for you to wait for your trophy.

Old Bucks—Scrubby Racks. Young Bucks—Good Racks.
WHICH WOULD YOU CHOOSE?

An albino buck that was virtually pure white was killed during the 1950 deer season in Rose Valley, Lycoming County, by Richard Mulberger of Williamsport. The buck weighed about 150 pounds and had a freak antler growth with one spike ending in a blunt end. It was Mulberger's first kill in five years of hunting in the vicinity of Williamsport.



Don't be a Kidnapper

By Grace O. Beach

EVERYBODY loves a baby. There is something so appealing and heart tugging about these fragile, helpless little creatures. One sight of them and we're goggle-eyed and out for the count—before we rightly know what has happened. Women and children have an uncontrollable desire to pick up a baby and cuddle and pet it. Men usually manage to shy away from such a show of sentimentality but they never quite succeed in quelching that fierce instinct to protect and look after the helpless little creatures.

This instinct appears to be magnified considerably when it comes to wildlife babies. At sight of a small outdoor youngster adventuring around alone, our mothering instincts or a protective feeling immediately becomes full-blown and a little heady. We park our yankee horse sense in the back parlor and turn the key in the lock. We gather up the little fellow, sure that he is a forlorn and motherless child alone in the world and needs our attention.

By this time, the little fellow is thoroughly frightened. His heart is beating like a trip hammer and his eyes plead for release. That should stop us right then and there, but it never does. It only seems to heighten our desire to protect and care for the little thing. We are sure the mother has left it or been killed and any qualms that this might not possibly be true are safely tucked away in the back parlor with our yankee horse sense. Without further ado, we trundle the one home with us so we can look after this precious bit of babyhood.

Right then and there we tag ourselves with a criminal offense. We have become a kidnapper.

That is a pretty harsh term, isn't it? But, it's true, nevertheless. Hundreds of wildlife babies are kidnapped from their parents every year by well meaning folks who don't realize what they are doing.

We abhor kidnapping and everything it means. In order to protect our own homes and youngsters against such dire peril humans have the strictest kind of laws against anyone who dares to remove one of our youngsters from their homes. Yet every year, we ourselves, commit this crime against wildlife babies and their mothers.

It is not our intent to be malicious or inhuman when we pick up wildlife infants. It is just that most of us do not understand their ways and through our ignorance we are led to commit acts of supposed kindness.

A mother's love for her child, or a child's love for its mother, is not exclusive with humans. It is a natural instinct with all creatures. Because we don't understand the language a mother speaks is no reason to underestimate her ability to love and care for her children. The wildlife mother is just as loving and far more capable of raising her children than we are.

As a matter of fact, humans have never been very successful in raising wildlife creatures. There are times when it is necessary to adopt wildlife orphans and raise them. When that happens we domesticate them, their





natural protective instincts are killed, and they are handicapped for returning to their normal life when they are finally old enough to be returned to it.

Spring and early summer is baby time in the great outdoors. The woods and fields will be filled with thousands of babies of all kinds. They are being cared for by proud and happy mothers. Each mother has her own special way of looking after her young, feeding them and teaching them to meet the problems of their every day life in the open. She knows as only a wildlife mother can, the enemies to their existence and how to avoid the dangers that lurk in their pathway of life. The wildlife mother is well fitted for her job and she does a good one.

This year when you visit fields and streams and woods you'll see lots of little fellows. Don't pick them up and adopt them. Let them alone. If you have reason to believe they are truly orphans, make yourself inconspicuous and watch for awhile, to make very sure that the mother is not nearby. The time you spend watching will provide you with some of the thrills of a lifetime.

One of the most thrilling performances of doting wildlife motherhood your editor and her outdoor partner ever witnessed occurred one day while fishing on a trout stream. Walking through some rough grass near the water's edge the writer frightened a woodcock from her nest. The bird fell and crippled over the ground in a showy and pitiful attempt to lure me away from her babies.

Taken completely by surprise and afraid to move for fear my big boots, and I do mean big, would create a tragedy, my eyes made a quick survey to locate the nest. Nature camouflages them so well they are difficult to detect, but finally almost at my feet and directly in front was the nest and in it four little yellow, fuzzy butterballs with dark splotches. The chicks had been just recently hatched and the mother had apparently stayed right there until I had almost stepped on her before she tried to lure me away from those babies.

To be truthful its hard to tell who was the more excited and scared, or whose heart beat the loudest, the lady with the chicks or the one who was causing all the disturbance.

Withdrawing carefully from the scene, the writer moved downstream to get the buddy so that he too might see my discovery. Together we took up a spot where we were concealed but could still see the nest and silently we watched to see what would happen.

Presently we noticed the tall grass moving and there was Mother Woodcock coming back to her nest. Imagine our surprise when she picked up one of her little chicks in her long bill and moved off in the tall grass. We followed her movement for about 20 yards or so, where she stopped, then presently we saw her coming back. She made three trips in this fashion, each time carrying one precious chick to its new home. She had apparently selected the new location and moved one chick during the time it took me to get my partner and take up our lookout.

No stage drama ever held more interest and fascination, nor had a more awed audience. We had never

spoken a word and had hardly dared to breathe. Still without speaking, we moved back to the stream and sat down and just looked at each other, then we burst out laughing, when "old pal" looked at me and said: "By the way, what happened to your camera?"

There it was hanging on a strap around my neck completely forgotten till the show was over. My complete absorption in the little wildlife drama had been so great the camera never dawned on either of us and the picture of a lifetime was never taken. But, the memory will never be forgotten.

Little fawns are probably picked up more often than any other wildlife babies, and generally without need. That is due to the fact that the doe hides them while she browses nearby and makes several trips back to her baby to feed it and see that it is all right.

The little fawn is born in late spring and weighs about four pounds at birth. Its spotted coat gives it a natural camouflage and makes it difficult to find when hidden among the sun-dappled leaves.

For about the first month the little fellow is rather weak and helpless and has difficulty managing his spindly, graceful, delicate little legs. As he gets a little older he will wonder around near the hiding spot while his mother is feeding, growing more adventuresome as he gains strength. Finally he is strong enough to go with her as she browses.

Finding a fawn alone like this is most peoples undoing and they gather the little fellow up and cart him home. Game Protectors get many calls each year from people who had found fawns that they were sure had been deserted. They are all handled much like this case.

The Game Protector's phone in the Division office rang and a farmer reported that his two sons had brought home a pair of young and very small fawns they had found by the side of the woods down the road from his farm. They had apparently been deserted or something had happened to the mother and they were afraid that they would be killed by a car if they got out on the road. The farmer thought the Game Protector had better come and get them.

The Protector got into his car immediately and drove out to the farm. He took the two boys and their father and the two little fawns and drove down the road to the spot where the two boys had found the babies. They carried them back and placed them as near the original spot as possible and then withdrew and quietly watched to see what would happen. They didn't have long to wait for presently the mother came along, nuzzled her babies and took them into the brush with her. Every one was happy that they were safely back with their mother. The Game Protector explained the ways of the Mother Deer with her babies and how it is best to determine that they are not real orphans first before taking them away from their home. Then he drove back to his office, just one more job done in a busy day of a Game Protector's life.

Don't be a kidnapper. If you find a lonely baby of nature, watch it for a while, concealing yourself as carefully as possible. If you still think it's an orphan, get to the nearest phone and call the Game Protector in the area. He will tell you what to do, for he understands wildlife creatures and their ways.





York Conservation Society

The Conservation Society of York County recently launched a KEEP PENNSYLVANIA GREEN drive for York County. Upon the invitation of the Society's president, Mr. B. T. Root, leaders representing educators, farmers, service clubs, bankers, sportsmen's clubs, boy scouts, woodland owners, veteran's clubs, vocational agriculture groups, and other interested organizations met in September at Glatco Lodge where they were guests of the Glatfelter Pulpwood Company. The meeting was conducted by John L. Snyder, former mayor of York and chairman of the program for the Society. P. H. Glatfelter, a director of the Pennsylvania Forestry Association and chairman of the Association's KEEP PENNSYLVANIA GREEN campaign, addressed the group and commended the Society for initiating the program in the area.

Warren County Field and Stream Club

Five hundred experimental packages of seeds, each containing three ideal varieties known to produce food and cover for wildlife, were distributed recently to members of the Warren County Field and Stream club. Each package carried seeds of the blight resistant Chinese chestnut, domestic apple, and multiflora rose along with full directions for planting. A request was included that sportsmen accepting the seeds check back on their planting efforts next summer to determine the success of the project.

Union County Sportsmen's Association

According to Mrs. Mary L. Cook, secretary of the Union County Sportsmen's Association, more than 900 banded pheasants were released by the group in the county for the 1950 hunting season. Several of the bands were returned from Center County, indicating a wide dispersal range of the pheasants. This club also has recently purchased a stone bungalow near their club grounds. The building has been completely remodeled and refurnished. It will provide quarters for 12 people and will be rented to members during hunting and fishing seasons at reasonable rates.

Philipsburg Rod and Gun Club

At a regular meeting of the Philipsburg Rod and Gun Club held in December, the following officers were elected to serve during 1951: George Griest, Jr., President; Eldon Woodside, Vice-president; Russell M. Lucas, Secretary; Edward Loding, Treasurer; and J. L. Umholtz, William Fenton, J. C. Kyler, Don Towsend, and Richard Shannon, Directors. The purchase of 30 wild turkeys was authorized for spring stocking. Twelve dozen rabbits to be purchased for restocking by the club are to have their tails and hindquarters dyed a bright yellow in order that club members can follow up stocking results. The group also authorized immediate procurement and distribution of $50 worth of food for winter feeding and laid plans for an annual banquet on February 1st.



Highlight of the annual banquet of the Federated Sportsmen's Clubs of Lancaster County held at Ephrata in early April was the presentation of a new award to the county's outstanding farmer-sportsman. Selected after a thorough check of many candidates, John H. Gantz, Elizabethtown, (right) was presented a certificate of merit by Clayton Shenk (left), Federation president. Mrs. Gantz looks on as her husband receives this new award.

Lancaster County Farmer Given Conservation Award

At their annual banquet at Ephrata, April 5, the Federated Sportsmen of Lancaster County instituted an innovation when they named John H. Gantz, R. D., Mt. Joy, "Outstanding Farmer-Sportsman of Lancaster County for 1950." Lancaster papers warmly praised the organized sportsmen for this recognition.

George Kirchner, sports editor for the New Era, said: "Whoever thought up that idea deserves a big pat on the back. After all, if a farmer is willing to go out of his way to make it more convenient for the sportsmen, then indeed, he is worthy of recognition."

"Gantz was chosen from scores of area farmers for his outstanding work in this field. He provided food and cover for game on his lands as an aid to hunters. For the fisherman, he raised trout in a pond on his property. These were later distributed to county streams for anglers to enjoy their favorite sport."

Erie County Junior Sportsman's League

Television is partly responsible for formation of the Erie County Junior Sportsman's League. According to Jerry O'Hearn of the Erie County SPORTSMAN, he had a young lad on his television program who asked the TV audience if there was not a man among them who would volunteer his services as supervisor of a junior program. Mr. Harry Ramsey, wrestling coach at Academy High School was viewing the telecast and responded to the appeal. The next week he appeared on the show and outlined the program he would like to follow. In response to this broadcast three persons called in to offer use of halls in which to hold meetings. The first meeting of the Junior Sportsman's League was held recently with 41 boys in attendance. The Erie County Sportsmen's League is undertaking the financial help the new organization will require.



The Fire Bug

By John F. Blair

WITH the coming of a few warm, sunny days clouds of smoke will be seen here and there all over the State of Pennsylvania. The keen tang of wood smoke and burning grass will come down the wind to greet you and you will know that the "fire bug" has come out of hibernation, just as he has done every spring as long as we can remember. Thru the winter months, when snow is on the ground and burning can be done without much chance of destroying property and wild life, this "fire bug" lies dormant. It is too much trouble to rake up the old tomato and lima bean vines and potato tops in the garden in the winter and pile them up to dry and be burned some morning when the grass is wet. But with the coming of the few first warm days of spring his thoughts naturally turn to gardening and he realizes that planting time is almost here and so starts to get the ground ready by burning off the rubbish that has accumulated.

One of the peculiar things we observe is that very few successful farmers are a member of the "fire bug" family. He realizes that every time fire crosses a field it burns off valuable humus or vegetable matter on top of the ground and some of the roots. When this decayed vegetable matter is turned under, it adds humus to the soil and helps to hold the moisture thus improving the soil and tending to grow a better crop. After burning, the top soil is exposed to wind and rain erosion and valuable minerals are leached out and carried away. It is easire to plow a field after the dead grass and broomsedge has been burned off but turning them under will repay the extra effort in better crops. The short sighted farmer that burns his fields year after year must sooner or later realize that it is only a matter of time, when following this practice of burning, until any soil will be unable to produce crops and will be abandoned to grow up in crabapple and thorn bushes and poverty grass, we call it in Greene County. There are thousands of acres of this kind of land over the State, made so by periodic burning.

In the vicinity of "patch towns" spring burning really becomes an epidemic. When the prospective gardener rakes up the old corn stalks and vines from his garden he burns them. He usually burns the grass and weeds around the garden and is not careful to confine the burning to his own lot and all too often the fire spreads to adjoining fields and is only brought under control after many hours of back breaking and hand blistering labor by volunteer firemen. Many thousands of acres of land are carelessly burned over this way each year. It impoverishes the land. It destroys any wild life such as song birds and quail and ringnecks that are nesting in the area. Nests of young rabbits and often the old bird or rabbit are burned on the nest, refusing to be driven from her young. It also wastes untold man hours of volunteer firemen whose ranks are made up of clerks, mechanics, truck drivers, salesmen and carpenters and others, who drop their work wherever it may be to answer the call of the fire siren spending hours and often days to put out a fire carelessly or wantonly started by

some individual who failed to take any precaution against its spreading or many times just plain didn't give a darn. These volunteer firemen are a group of unsung heroes and deserve every boost we can give them.

This kind of burning must be controlled in some manner. In many states any burning can only be done during the winter when the danger of spreading is at a minimum. Any burning at other times of the year can only be done after getting a permit from the Conservation Department.

Looking at this problem from the viewpoint of conservation of our soil and minerals our forests and wild life and as a protection to personal property, I can see no reason why a conservation-minded legislature should not pass a law providing for a severe penalty of any individual starting a fire anywhere if it spreads to the property of another, and in addition requiring him to pay all expenses incurred in extinguishing the fire and paying for any damage to property, either real or personal, caused by the fire. Some people can be persuaded to stop burning thru education. There are those, however, who can only be educated by a solid slap at the pocketbook or a cooling off period in the county jail.

As a conservation officer and as a conservation minded citizen of the State of Pennsylvania would be very much in favor of a bill that would tend to exterminate the "fire bug."

. . . *The End*



Good sportsmen are often victims of poor sportsmanship. This damage was done to the club house of the Dormont-Mt. Lebanon Sportsmen's Club in Upper St. Clair Township, Allegheny County, between February 15th and 17th. Unknown thieves and vandals gained entrance by using sledge hammers or crow bars and deliberately ransacked the building. According to president Perry Walper, State Police officers are making every effort to apprehend the vandals and in addition the club is offering a $100 reward for information leading to the arrest and conviction of the thief or thieves.



Selecting the First Bow

By Thomas A. Forbes

AT one time or another most of us have had a bow. In the majority of cases we acquired it in one of two ways, either as a present from our parents or we made one the hard way out of any convenient branch of a tree and a piece of string. Equipped with a bow and arrows of a sort we were on our way. How to shoot was strictly for us to find out. If, instead of a bow, we had been presented with a 22 single shot rifle you may be sure we were given instructions by our parent on the proper safety precautions that have to be taken in handling a gun and we would have been coached in marksmanship.

Since the bow at short range is just as formidable a weapon as a gun it is perhaps just as well that the ability to shoot has to be acquired. In addition to every thing that is required of a rifleman the archer must also build up the force necessary to propel the arrow.

Nevertheless no one can say we did not make an effort to hit a mark with our bow. We tried every way we could imagine but the arrows never responded to our wishes and like youngsters the world over, we soon tired of our lack of success, laid the bow away and forgot about it.

What then was the reason we did not continue to enjoy archery along with our other activities. Two fundamental errors were committed; in each case our parent was at fault. When a parent buys a youngster his first gun, the gun is selected by the parent on the basis of personal knowledge of firearms or after consultation with a friend who has such knowledge. But when it comes to buying a bow parents seem to believe all bows are alike and you go to the store, pick one up, pay your money and take it home.

When you give Johnny the bow you probably say: "There you are son. Let's see you hit something with that." You need not worry. The chances are 10 to 1 that the bow is not suited to Johnny's physical limitations or that he will be fortunate enough to acquire any skill in its use without aid or instruction. After all, if you buy a baseball for your youngster you take time to teach him to play catch.

That archery has managed to survive such a handicap is a tribute to the sport. Sooner or later some of us stop to watch a group of archers. Remembering our own unsuccessful efforts we are rather surprised at the consistency with which some of the participants can send their arrows into the target. Curiosity as to how they are able to accomplish what we had given us years ago compels us to move nearer so that we can observe their methods. Now archers are a friendly group and observing an apparent interest on our part one of the archers waiting his turn to shoot introduces himself and asks if we shoot. We admit that we have not drawn a bow since we were kids and before we are aware of what has happened the archer has us on the line with his bow and is showing us the elementary technique which every archer must acquire before he can consistently hit a target.

Fifteen minutes and about 100 questions, on our part, later we are told that we have had enough for a start. "You have been using muscles that you have not used in years. Come out and try it again. Glad to help you get started." And started we are. Secretly we are just a little pleased that some of the arrows we shot went into the target. Now the years have taught us among other things to seek advice on any subject with which we are not familiar. So it follows naturally that we ask our archer friend what kind of a bow we should get to enjoy this sport.

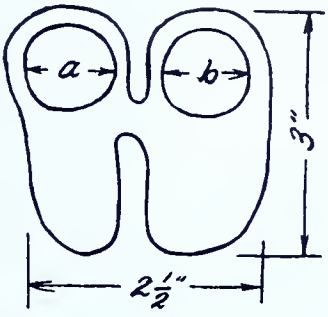
Let us listen in on the Old Archers' conversation as he offers from his fund of acquired knowledge advice on beginners equipment.

"There are almost as many different kinds of bows, or varieties of bows as there are archers on the shooting line. Every archer, once he has required proper shooting form selects a bow which he believes is best suited to his physical makeup and the use to which he expects to put it."



Thomas A. Forbes

Tom Forbes is a member of the Board of Governors of the Pennsylvania State Archery Association Inc. and Editor of the associations Monthly Bulletin. Tom is a Class A archer and his daughter is Junior Girls Pennsylvania Target Champion. He has hunted and fished throughout the United States, in Canada, Central, and South America. He is a retired Army Officer who saw service in both World War I and World War II.



Leather shooting tab. The finger holes (a & b) should be of sufficient diameter so that the index and third finger of the hand may be inserted comfortably.

Walking along the line the Old Archer spoke to one of his friends and then picked up a bow from its ground quiver.

"Here," said the Old Archer, "is a bow which meets very well the qualifications required in a beginners' how. It is a flat type lemonwood bow with a built up handle. While yew and osage orange are the two best bow woods, lemonwood, which is less expensive will give excellent results at target distances up to 60 yards with a drawing weight well within the beginners' strength."

"You understand," said the Old Archer, "the muscles used in drawing a bow to full draw are strengthened by use. Your first bow should be selected so that you can bring it to full draw without undue strain. One of the greatest handicaps to a beginner is a bow that requires an all-out effort to bring it to full draw. First things must come first and a light drawing weight is a prerequisite in a beginners' bow so that he can concentrate on learning proper shooting form."

The Old Archer paused and then said: "Don't discount the light weight bow. I know a National Target Champion at distances up to 60 yards who shoots a bow which draws less

than 30 pounds. The bow is a stock model flat type lemonwood bow backed with fortisan. It can be purchased at retail for $17."

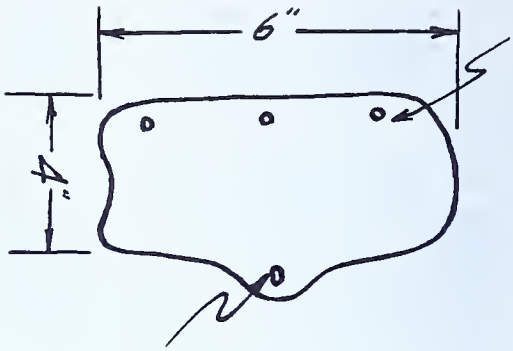
By this time it was perfectly evident to me that there were plenty of points on which I needed information before I could expect to achieve any measure of success with a bow.

"Perhaps," I said to the Old Archer," I had better forget the whole idea. It sounds too complicated and too expensive."

"Now wait a minute," said the Old Archer. "See that chap in the white tee shirt shooting on the next target. Watch him a little bit."

I did and he seemed to be hitting the target quite regularly although his arrows were rather scattered over the face of the target.

"That chap," said the Old Archer, "has been out here just four times. Two weeks ago he was at the same point you are now. We helped him select a suitable bow well within his price range. In fact its drawing weight is 28 pounds and he paid nine dollars for it. He also bought a dozen good practice arrows. They are made of Port Orfoed cedar, have metal points and replacable nocks and cost about six dollars; a ground quiver, shooting tab to protect his fingers, and an arm guard make up all the essential equipment that he needs at this stage. In fact, he made the arm guard and shooting tab out of pieces of scrap leather and constructed his ground quiver, which holds extra arrows, from a piece of stiff wire. You see even at the start the novice may if he choses begin to make his equipment."

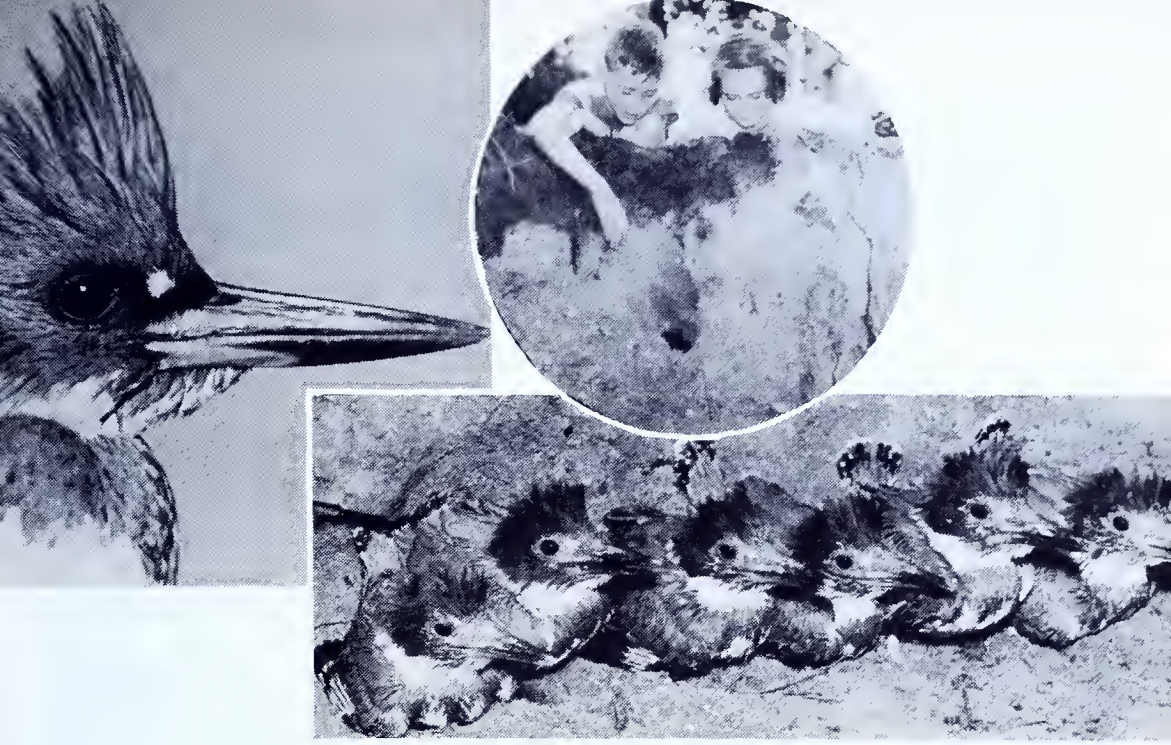


Leather Arm Guard. Fasten it to the inside of the bow arm above the wrist with an elastic cord. Three eyelets should be riveted on the left side and a hook riveted on the right side.

"Fine," I said, "Now that I know the price range and drawing weight of suitable equipment for a beginner; how do I know what length of bow and arrows I require."

"Fortunately," said the Old Archer, "a simple method based on the distance in inches measured from finger tip to finger tip of the outspread arms will give the proper length of arrow for you and the length of the bow is dependent upon the arrow length. Here is the table."

Spread Measurement	Arrow Length	Suggested Bow Length
57-59 in.	22-23 in.	Not less than 4 ft., 6 in.
60-62 in.	23-24 in.	
63-65 in.	24-25 in.	Not less than 5 ft., 0 in.
66-68 in.	25-26 in.	
69-71 in.	26-27 in.	Not less than 5 ft., 6 in.
72-74 in.	27-28 in.	
75-77 in.	28-29 in.	Not less than 5 ft., 9 in.
Over-77 in.	30 in.	Not less than 6 ft., 0 in.



Outdoor Kids

By Hal H. Harrison

AT a bend in the creek, where spring floods had torn away the bank until it stood high above the water, a kingfisher had dug its burrow.

Billy and Jane found it one summer afternoon when they saw a kingfisher carry a fish in its bill. They watched the bird from a distance until it disappeared in the bank. A short time later, the bird came out without the fish and flew away.

"It's feeding young," Billy exclaimed.

"Let's stand near the hole and watch it go in again," Jane suggested.

But the children discovered that the kingfisher is a wary bird. It refused to enter its tunnel while they stood nearby. It perched on a telephone wire some distance away, flicking its tail and acting very nervous, but it would not come nearer.

It is well that the kingfisher is wary, too, for many persons kill it for such a silly reason as the fact that the bird eats fish . . . fish they want for themselves.

The children are very fond of this big blue-and-white bird. They remember its high-pitched rattling call as it flies ahead of them along the creek, the fluttering wingbeats as it hovers above a pool before it dives for a fish, the pounding of its newly caught prey on the dead limb of an overhanging tree, the torpedo-like dive in and out of its nesting hole, its shaggy crest.

Kingfishers are easy to know. Indeed, they can be confused with no other bird except possibly the blue jay. It is about a foot long, blue-gray above, with a shaggy crest or tuft of feathers on its head, and a heavy pointed beak. The male has one blue band across its white breast. The female has two bands, the upper blue and the lower one brown.

The bird digs its nesting tunnel in a high clay bank with its long, pointed beak, removing the dirt with its feet. The tunnel extends inward and upward from three to six feet. Often the burrow makes a sharp turn

at the end, and around this corner the five to eight white eggs are laid in a bed of fish scales.

Young kingfishers are hatched blind, naked and helpless. They remain in the nest tunnel about a month, and they are very ugly until they get their feathers.

Although it is accused of doing great harm in its diet of fish and although it is not protected in Pennsylvania, the kingfisher is not guilty of doing any measureable damage to game fish in the streams where fishermen might vie with it for a catch.

Indeed, in defense of this wilderness bird, one might even prove that the species is actually beneficial to its human predators. In the examination of 313 stomachs of kingfishers collected in widely different sections of the country, the U. S. Biological Survey (now Fish and Wildlife Service) showed that less than half the fishes taken were the kinds usually eaten by man. Many of the fishes sought by this bird are noted enemies of sporting varieties because they feed on the spawn of the species prized most by man.

Arthur Cleveland Bent, famous ornithologist said of the kingfisher: "The most serious enemies of the kingfisher are the selfish fishermen who want all the fish for themselves and begrudge the poor bird an honest living; and the proprietor of a trout hatchery, who is unwilling to go to the trouble and expense of screening his pools to protect his fish. The former shoots every kingfisher he can with misguided satisfaction; the latter either shoots or traps any that visit his pools."

Kingfishers usually migrate, but some remain each winter in the North, in places where they can find food.

Kingfishers are seldom seen far from water, and Billy and Jane always look for them when they visit a lake, creek, or river.

. . . *The End*

Pennsylvania's Junior Conservation Camp Is Tops

Since World War II, educators and sportsmen have become increasingly aware of the need to teach youngsters the value and importance of the wise use of our natural resources, as well as the pleasures and benefits derived from hunting and fishing.

A natural product of this awakened consciousness, the Junior Conservation Camp, sponsored by the Pennsylvania Federation of Sportsmen's Clubs and Pennsylvania State College, will be operated this summer for its fourth consecutive year. Beginning June 10, four camp groups will spend 12 days each at the State College Forestry Camp, in northern Huntingdon County. Camp costs will be borne by the sportsmen's clubs that sponsor the boys.

"Never a dull moment" describes the life enjoyed by the fortunate campers. The boys revel in an excitingly new and busy existence in the roughly comfortable buildings and on the grounds of the forestry camp.

The boys who attend the camp are high school sophomores and juniors. They are usually selected through competitive examination. They are urged to organize junior sportsmen's clubs upon return to their home localities.

Charles W. Stoddart, Jr., Extension Director of the School of Physical Education and Athletics, and his capable staff direct and supervise the activities of the boys. Stoddart emphasizes the fact that human conservation, too, is an aim and a natural result of the camping periods.



Berating Bowhunting

Dear Sir:

I've been hunting and fishing since I was old enough to hold a rod and handle a gun and I think that the GAME NEWS is a wonderful magazine for our sportsmen.

After reading Frank Edminster's article, "We're Missing a Good Bet," in the February issue, I would like to express a few ideas of my own and my friends on the subject of bow and arrow hunting. Frank seems to think that every argument against bow hunting is a gross misunderstanding. Not only does he think that a special season is in order, but he evidently feels that bow hunters should be allowed to shoot deer of either sex while the gunners be allowed to shoot only bucks. Aside from this, if the bow hunter fails to get his deer during his special season and under special liberal rules and regulations, then he be allowed to take up his trusty musket and take to the woods with us lowly gunners. Is this a sportsman's hunt or a meat hunt?

Nuisance deer, as Frank calls them, are deer that are out of bounds for the gunner but should come under the hunting prowess of the archer. What makes him think that it would be safe to hunt out of bounds with the bow and arrow? One must realize that if an arrow is so deadly to a deer, surely it is just as deadly to humans and domestic animals or anything else it might strike in these out of bounds areas.

The statement that no one ever saw a deer running around with an arrow sticking out of them is rather out of line. If the author will kindly contact the forest ranger at Cooks Forest, I am sure he will change his views of this idea. This forest ranger was a former Camp Hill resident. My wife and I visited Cooks Forest last August and saw a deer with an arrow sticking in it as it had been for nine months since the previous December season. I don't think that it was a very pleasant experience for that deer. Personally, I would like Frank or anyone else to illustrate just how a broad head arrow or any arrow used for killing deer can work out of a deer's body if the shot was not a lethal one. I don't think he has ever witnessed such an event.

Under the circumsctances that the bow hunters like Mr. Edminster want their special bow season, I must agree with many other gunners that this would amount to class legislation and not something that would be any improvement or advantage to the sport of hunting nor fairness to the game animals. It's evident that bow hunters who want these relaxed laws, special privileges and two seasons, are out to kill their deer as their first objective and sportsmanship is secondary.

I wonder if it was ever considered just how many hunters could actually afford two deer seasons since many must go to a different section of the state to hunt deer. Evidently bowhunters who want to be allowed to hunt both seasons are in such a position that the financial problems doesn't enter it, but it would with many deer hunters, including myself, and I am only too glad that I can get away for one season.

I am definitely not against bow and arrow hunting but only against any special privileges or laxity of the

rules and regulations for any such group. I would appreciate it if you would kindly print this article in your GAME NEWS as an answer to Frank Edminster. I'd like to have some answers on this subject also.

Sincerely,
Ben Squires
620 Geary Street
Harrisburg, Pa.

Blessing Bow Hunting

Dear Sir:

It was a pleasant surprise to read the two articles in the February issue —"We're Missing a Good Bet" and "The Bow As a Modern Hunting Weapon" (first of a series on archery and archery tackle).

While it is pointed out in the first article that a very small number of hunters will ever take the field with a bow, it is just as true that of those who do, the greatest number will be from among hunters of long standing and the widest experience.

I have spent quite a bit of time reading the kill figures in the states where bow hunting enjoys the widest popularity and Mr. Edminster's figures should be helpful in establishing a season for bow hunting in Pennsylvania as he has stated the figures very graphically.

Our Commission undoubtedly has been keeping well abreast of the developments in the rest of the country and it would be a wonderful thing for many hundreds of us if legislation could be passed, if necessary, or the Commission rule that a separate season for bow hunting be approved.

Like Bill Wolf, most of my winter evenings have been spent removing the carcasses and sweeping up the ashes, but don't ever think a hot shot at real game with a bow won't be something to make you quiver, hit or miss, for a long, long while.

Very truly yours,
Godwin Stevenson
Philadelphia, Pa.

Camping Occurrences

Dear Sir:

I am not a journalist but I'm going to try to write something about things I love. It isn't hard to say that the GAME NEWS is a fine magazine because it is true. I only wish that every Pennsylvania hunter could be convinced that he should be a subscriber. When you read the magazine, it does something to you. For when you cannot be in the mountains all the time, it brings the mountains directly home to you with all the beauty that goes with them.

As I sit in my easy chair with my mind wondering, I thought it would be a splendid idea if the hunters themselves had one page in the GAME NEWS. Hunters of both small and big game do have questions as well as something they would like to pass on to their brother hunters.

We have hundreds of camps in the mountains and I think it would be fun reading some of the incidents that occur at some of these camps. For example, I belong to a camp located in a small but beautiful valley on Fields Run in Centre County on top of the Snow Shoe Mountains. If one walks only a half mile to the top of the ridge, he can see the majestic Bald Eagle Mountains as they roll against the eastern sky 45 miles away. If one travels directly west for five miles, he can see a beautiful streak of quick silver streaking down through the twisting valleys in an endless flow, the Susquehanna River.

It was this beauty, the valleys, forests and streams with all their hidden secrets, that banded together a group of men to build this camp. No wonder that even old Mr. R. Mortis, in time, found his way to this lovely spot, when our own beloved Mr. John Stundel slept away. He surely must have been happy in that last great sleep having what he loved best all around him.

The actual building started 18 years ago and when it was completed, we christened it Camp Har-Brack in honor of our own Har-Brack High School in Natrona Heights. Our members hail from Harrison Township with the exception of one who hails from Bulter County, he being a farmer. We thought he would be gifted with a sense of direction but we found that the mountains were not like Mr. Palko's farm. The organization is headed by four old timers—Jos. Lichok, Pres.; John Achkio, Sec.; Thomas Palko, Captain; and Martin Micholds, Co-captain. These men have a quarter century of experience in the mountains and have proven to be fine leaders.

Camp Har-Brack by no means has broken any records nor are the members helping to keep the deer population low. One reason is our own Mr. George Kabay. I happened to find his diary in his bunk one day and this is what I read:

"As I didn't see any buck my first season, I had reasons to try again the second season. This second year I say my first buck. When I glimpsed him, I began to shake. With great effort I finally raised my gun, tried to aim and squeeze the trigger, but couldn't. The longer I aimed, the more I shook, and the more I shook, the harder it was to squeeze the trigger. It seemed as though I was frozen stiff and within a short while the buck was gone. When my sorrow finally left me, I headed back to camp, vowing not to reveal what had happened. But the following night around the camp fire, I revealed my big disappointment. The boys said I had buck fever and they sure played hob with me. My shirt tail is still hanging up in camp. Well, the years rolled by and I didn't get another chance at a buck but I practiced faithfully on the range to shoot from all positions and mainly to squeeze, not pull, the trigger. Finally, on the eighteenth year, my prayers were answered. He was a nice fellow, standing about 50 yards away from Wolfe's Run. He was only a Y-buck but he was going to be mine. I raised my rifle, took careful aim, and squeezed the trigger. Nothing happened and as I pumped another shell into the chamber, the buck was off. I squeezed again and again but my buck was gone. Why, oh why, oh why, did I forget to load my gun?"

Sincerely,

Joseph Achkio
Natrona Heights, Pa.

Of Hawks and Owls

Dear Sir:

Our science club has been studying the hawk and owl situation. Some of our opinions and ideas are as follows:

We think that hawks and owls have just as much right to kill game as a source of food as we do. There is no such thing as a good or bad hawk because all of nature is cruel. We urge full protection for all species of birds of prey.

If a particular bird has a liking for chickens, the farmer should give proof to the local game protector and then he could give a permit to destroy that individual bird, but no more. We think that all birds should be given full protection. This should satisfy both the hunter and the farmer.

Most people can't tell the difference between the hawks and owls anyway. Every year hundreds of protected hawks and owls are shot in mistake for unprotected ones.

Sincerely,

Sunbury Science and Chemistry Club
Samuel Dubendorf, Secretary



A Gun Dog as A Pet

By Herbert Kendrick

THE question of whether it is good practice to make a pet of the gun dog still remains a highly controversial one. Arguments on this point have raged for years and sportsmen have retorted so strongly on both sides that it is rare for an editor to publish one side or the other.

Personally I feel that both sides have presented excellent points which leads me to believe the answer lies in the individual gunner. If a man spends a very limited time at home, or cares very little for home life, perhaps his dog would fare better in the kennel where someone could care for him.

Otherwise the individual who has learned to relax, loves his home, and manages his affairs in such a way that his evenings are leisurely spent around his own fireplace, will greatly benefit by having his gun dog with him. It is easy for me to feel that the man who makes a friend and companion of his dog the year around, will receive greater pleasure and possess a more superlative worker in the field during the open seasons.

Thousands of years ago our first records of dogs show that the cave man captured the wild animal young, brought him to his home and kept him there until they were friends. The dog naturally possesses a heart large enough to devote his entire life to a loving master who loves and cares for him. The gun dog is no exception, and the closer he lives to the peace and harmony of a good home, the better his disposition will develop.

Companionship breeds understanding and therefore makes a better working combination in the field, for it insures trust on both sides. This friendly companionship creates respect and builds up a greater urge on the part of the dog to perform for his master. If a gunner commands this respect and urge, the training period is far less difficult and after all hunting is a combination of inheritance and a projection of lessons taught the dog.

It has been stated that the dog living in the house loses his scenting ability because of the heat. If this could possibly be true, why does the dog retain his nose when he lives outside during a hot August month? Certainly a house is never heated to such a degree.

Living in the house cannot make a dog heavier nor weaker than lying in a kennel yard, provided he is not fed too much too often. A dog lives to please his master and when more attention is paid to him by being permitted to live in the home, the higher his spirits, and the greater his desire to please in the field.

The house dog will range just as well as the kennel dog if he is well bred and trained properly, yet the dog enjoying close friendship with his master will be less apt to become lost, because he does not wish to lose the one who treats him kindly. Earl Bufkin proved this point with Mississippi Zu, by keeping him in the house from the time he was a small pup. Zu was an all time great in the trials and under the gun, yet he was the finest house pet.

Horace Lytle's great Smada Byrd spent a great part of her time in their lovely home in Dayton. Byrd loved her master and mistress and hated the kennel. Horace's dogs are allowed in the house and everyone of them are

great pets while excelling in the field.

Gun dogs make fine pets because they are clean, quiet, lovable, and dearly love children. A hunter misses a great deal when he only sees his dog during the gunning seasons. He is so easily satisfied and requires very little to be happy, and his main purpose in life is to use his nose, bird sense, and ability in a way to give the sportsman perfect field days.

In the home the dog should be taught good manners and must be punished when he disobeys a rule. He must be house trained, he should not be allowed to jump up on everyone, and must obey commands to come, go, and lie down. The dog can easily be taught to respect the furniture. If he is allowed to "get by" with errors he will exercise the same prerogative in the field.

Care and judgment must be exercised in caring for the gun dog in the house. It is foolish to keep the dog in a warm house day and night over a long period of time, and then put him outside on a severe cold night. Many men allow their dogs house privileges until bedtime and then put him to bed in an outside kennel. This is an arrangement I can highly recommend.

When your valuable hunting companion is kept near you, at least a part of each day, you have the great advantage of knowing him better, judging his health, teaching him, and petting him enough to make him feel that you are the greatest guy in the world. The big lovable fellow can tell you many things with his eyes and expressions if you allow him to spend enough time with you to recognize your love for him.

To me a dog is much more than a mechanical device or a toy to use at my convenience. He is almost human possessing a heart as big as the fields he hunts. It is extremely important to me to feel that my dogs approve of me, and year after year I shall strive to live a life of which my dogs will approve and love.

Let us all do more for our dogs by spending more time with them, thus enriching their lives—and ours.

. . . *The End*



Porlsy's Bess, a pointer bitch owned by Harold Rabold of Womelsdorf.

Barrel Length Versus Velocity

By ED SHEARER

MOST of us whose beginnings in hunting and shooting run back a good many years were brought up with the long barrel—long shoot religion. The virtues and great deeds attributed to the long barrel were many and varied. Any one caught sneaking through the woods with a short barreled gun was regarded as a "Leetle balmy in the noggin" or maybe the victim of pernicious anemia. The weary days I spent worshipping this shibboleth can be chalked up to youthful enthusiasm. Out of this emerged experience and a firm conviction that I was doin' an "orful lot of carrying for so little shootin." Right then and there commenced a parin' down process that has continued ever since as far as whitetails are concerned.

I have them from the bull gun right on down. As I write I'm looking at a new 257 Roberts with a 4 power scope that just arrived in my chalet. Have not fired a shot out of it yet. Maybe when I drive to a certain place I know and walk 200 yards and set down and do a lot of lookin' instead of walkin' I'll use it on deer. Otherwise it's strictly for smart crows and bashful ground hogs.

With the short barrels we conceded some loss of velocity. The old rule of thumb of 25 ft. per sec. per inch of barrel from standard legth was generally accepted even by the factories. For some years my favorite deer rifle has been a beautifully stocked 8 M/M Mauser that weighs 6¾ lbs. without sling, with a 20 inch barrel. When I sighted this gun in I took the trajectory figures from data fired in a 26 inch barrel. This represents a loss of 150 ft. per sec. at the muzzle. Yet the trajectory figures were approximately correct for this short barrel rifle even at the longer ranges. While puzzled I put this down to the vageries of rifles that you run across if you experiment with them long enough.



But last summer Capt. Phil Sharpe and some associates viewed the old rule with some suspicion and set out to do something about it. The results were illuminating. Then to top things off I have a complete report laying on my desk of further complete experiments by Dr. C. S. Cummings, ballastics chief of Remmington Arms Company. Taking them both together and analyzing them there can be no doubt that we must revise some old ballistic rules, and our ideas at the same time. It seems that the arm weary "shikari" returning from the hills at sundown, can now discard old ideas of accuracy, velocity and range and can cut down the old musket to bring it more in line with his ideas of comfort and pleasure.

Let us discuss Sharpe's experiments. They had quite an assortment of rifles of different barrel lengths and calibers. These were a check on the experimental rifle to see how things were staying in line with different chambers and barrel lengths. They had quite a bearing as you will see. The main rifle used in the test was a Springfield action with a D. C. M. stock and a 30 inch Springfield Armory barrel chambered for the model 1903 cartridge, which

is round nosed. So much for the experimental rifle.

Now they fired six different loads representing all velocities from top level right down to small game loads, with lead bullet. The bullets and loads were as follows:

No. 1—220 grain Krag culpronickel bullet with 56.2 grains of No. 4350 powder.

No. 2—Frankfort Arsenal M-1 nine degree boat tail 173 grain bullet with 51 grains of No. 4320 powder.

No. 3—Same bullet but with 36.4 grains of Hi Vel lot 2 powder. This is the old International match load at 300 meters that gave such superb accuracy. Velocity runs about 2300 ft. per sec.

No. 4—150 grain flat base cupro nickel bullet, with 54 grains of No. 3031 powder.

No. 5—Same bullet with 18 grains of sporting rifle No. 80 powder. This is a fine accurate small game load.

No. 6—Cramer gas check lead bullet cast 10 to 1 with 33.5 grains of 4895 powder.

The control load was bullet—armor piercing M-2 166 grain bullet loaded with No. 4895 powder load, weight not given. All velocities were recorded at 60 feet by a Potter Electronic counter Chronograph which is the same used by the factories. Here is how the tests run on the Springfield with 30 in. barrel. The barrel was cut off an inch at a time as the tests went along.

Velocity of the 30 inch barrel with the control load was 2654 ft. sec. When the barrel reached 26 in. it gave 2640 ft. sec. velocity. This is a loss of only 14 ft. sec. which is about 3½ ft. sec. per inch. Quite a difference from our 25 ft. per sec. rule. At this barrel length the rifle was checked with an Enfield using the same load. Figures are Sprinfield 2640 ft. per sec.; Enfield 2621 ft. per sec. or 19 ft. per sec. in two guns same load.

The barrel was then cut to 24 inches with velocity showing 2616 ft. sec. or only 12 ft. sec. per inch. It was then fired with the same load in comparison with a 24 inch barrel Springfield Sporter. The results were Test gun—2616 ft. per sec. velocity—Sporter gave 2644 ft. per sec. velocity. A difference of 48 ft. sec. with the same load in two different barrels.

The barrel was then cut to 20 inches and the velocity dropped to 2606 ft. per sec. This is a loss of but 10 ft. sec. or 2½ ft. sec. per inch of barrel. Now here is the remarkable part. The loss in velocity over the entire length of barrel cut off amounted to only 48 ft. sec. which is less than 5 ft. sec. per inch. Another point which is worthy of noting is, the Springfield Sporter gave 48 ft. per sec. higher velocity than the test gun. Also in the 26 inch barrel comparisons the Enfield gave 19 ft. sec. lower velocity than the test gun, with the same load.

Even more interesting are the accuracy tests and the behavior of high power loads in short barrels part of which we have known for some time. At the 30 inch level all loads were good and continued so to 24 inches. Below that the muzzle blast was generally increased with the recoil becoming heavier. At the 20 inch level blast and recoil were increasing much faster. At 18 inches the heavier loads were vicious. At 16 inches the muzzle blast knocked the pictures off the wall of the shooting house. With the barrel cut to 12 inches a group was fired for accuracy at 100 yds. with the shooter a bit groggy with recoil. The group went into a 1 9/16 inch vertical and a horizontal variation of 2 inches. In other words the barrel was shooting as well as it ever did. At 10 inches a group went 13/16 inches by 1 and 9/16 inches. Thus it seems that with this gun, barrel length has little to do with accuracy.

. . . *The End*



Trapping Relationships

By L. J. Kopp

GOOD sportsmenship and proper understanding of each other are generally not recognized as serious problems by individual trappers. The fact is, however, that sound internal relations among all trappers is of paramount importance.

Lack of sound relations in the trapping fraternity is responsible, to a large extent, for misunderstandings, resentment, and misrepresentation of trappers in our relations to the rest of the world. As a result, cooperation between trappers and the general public is slow. This in turn interferes with constructive conservation movements in the overall situation.

Generally speaking, trappers possess a peculiar nature which has not yet been adopted to modern times. A trapper may be your best friend during the off season, but when the trapping season opens he is likely to develop into a personality which reflects selfishness, and in general lends an air of independence to an otherwise normal person.

In other words, a trapper is apt to temporarily seclude himself in a world all his own. In his mind he stands alone. Other trappers are not related to him.

There is of course ample reason for the individual trapper to be cautious in an effort to avoid undesirable competition. At the same time we should also remember that this can be overdone, and at times can lead us into trouble.

The first step towards better internal relations is strict observance of Game Laws. A trapper may be selfish, but he cannot set himself apart from other trappers without getting into trouble.

When a trapper is apprehended for a violation of the Game Code, his action reflects upon his fellow trappers. All this just because one trapper wanted to set himself apart from other trappers, encourages improper relations.

Many trappers do not accept trapping as a privilege enjoyed by many. Actually these trappers are overly secretive, and for the most part are concerned only with their immediate surroundings.

Some trappers stand out in bold contrast when compared with the majority of trappers. There is for example, the type who ignores the Game Laws. Such a trapper may decide to set out a few traps for muskrats somewhere back on the farm. He has no name tags on his traps, for the simple reason that he wants only to set a few traps for a short time. In this case he decides that it isn't necessary to bother with trap tags. He just ignores the law completely.

Another type is the one who does not understand the Game Code, or even worse, does not know it exists. This type is probably the most ridiculous of all. When such a trapper is apprehended for violation of the Game Code, he is apt to blame the officer with the excuse that he did not know such a law existed.

Game officers should not be blamed, simply because it is the responsibility of each trapper to be

fully aware of the laws which govern the privilege of trapping. Some trappers frequently conceive the idea or impression that a Game Protector purposely arrests someone.

I have listened to numerous complaints from trappers who felt that they were wrongly arrested. For example, one trapper I know was arrested for failure to tag a trap. This trapper had all his traps properly tagged except this one. It just so happened that a fox had been caught in this particular trap and had torn off the trap tag. The trapper, in his excitement to reset the trap did not notice that the tag was missing. Perhaps it was only bad luck that a Game officer happened to check this one trap. A little thing like that can bring about an arrest, and eventual resentment of the part of the trapper.

Such a predicament can happen to anyone, and should not create undesirable feeling between trappers and the Game Protectors. It is a good policy to remember that a Game Protector is under oath to enforce the game laws, and that he does not always like what he has to do.

These game law violations, and any misunderstandings which come about as a result, reflect upon all trappers. Therefore, strict observance of all game laws is the first step towards better internal relationship.

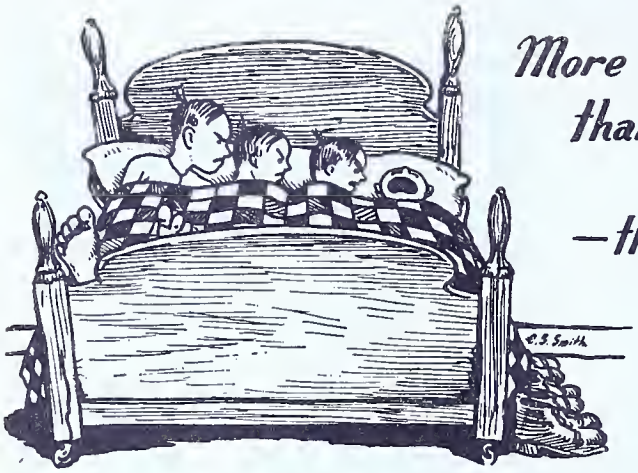
Due to the secretive nature of trappers, too many are concerned only with trapping conditions in their own vicinity. Naturally when trapping laws are established, these trappers compare the laws with conditions in their own back yard. In the event that the laws are not conducive with a detailed description of these local conditions, the trapper objects, and in various ways protests about the laws. In other words such a trapper considers himself as strictly an individual, and he is not willing to cooperate and contribute in the interests of his fellow trappers.

Another drawback is that many trappers are almost exclusively concerned with seasonal regulations, and show no concern about basic conservation programs. Trappers either are not aware of such programs, or they see no connection between trapping and the various programs. While many trappers are complaining about conditions, everything possible is being done to improve conditions. For example; the small marsh development program means a great deal to trapping. These marshes are not only ideal for duck production, but they are also fur propagating areas. The Pennsylvania Game Commission employs a special Waterfowl Coordinator who is in charge of this small marsh program. In some states such marshes have been developed for the express purpose of fur production.

Originally, this small marsh program was developed to increase the number of duck hunting areas, and thus relieve the major duck hunting areas from excessive hunting pressure. These small marshes offer a way for land owners to convert a few acres of wet land into a paying proposition. Due to the numerous returns which such marshes offer, many landowners are seriously interested.

The extensive food and cover work being carried out in Pennsylvania is also of considerable importance to the trapper. Many trappers are inclined to associate this extensive work only with other wildlife. We can rest assured however that any and all efforts to improve wildlife condition include fur resources. In suitable areas on our State Game lands, special attention is given to valuable fur animals such as muskrats. Other basic conservation movements which concern the trapper are stream improvement, reforestation, farm ponds, and even soil conservation.

. . . *The End*



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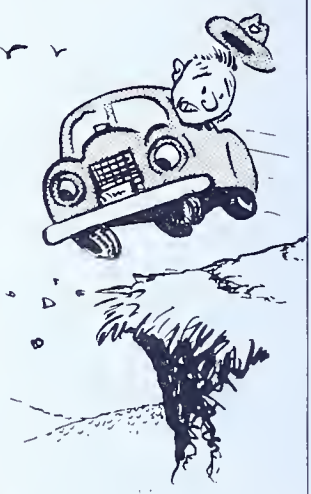
You will be assured a life of adventure & romance in scenic Pennsylvania.



You will know the joy of establishing good farmer-sportsman relations.



You will be treated to the rare beauty of Autumn nights while trying to nab jacklighters, etc.





Your work will keep you in the healthful, invigorating fresh air of the great outdoors.



You will know the warmth of heart that comes with distributing venison among charitable institutions.

Furthermore, you will never know the boredom of excessive spare time, thanks to such activities as raising motherless wildlife, showing motion pictures, addressing clubs & trapping wayward rabbits.



Ned Smith

PENNSYLVANIA

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THE STORY BEHIND THE COVER

FOR more than fifteen years Pennsylvania wild turkeys raised at the Game Commission's Wild Turkey Farm have inherited increasingly the native shyness, instinct and intelligence so respected and admired in native birds. Unlike his barnyard cousin, today's Keystone State wild turkey is a symbol of pioneer days and a bygone wilderness which challenged the early settlers. The development of this wild strain in artificially propagated birds is a tribute to the skill and knowledge of propagation and research workers, the interest and devotion to duty of field officers.

In August, 1936, the Commission first established wild turkey propagation areas in the heart of Pennsylvania's best turkey country. These areas, varying in size from 10 to 25 acres, are located where natural food and cover are plentiful, ideal nesting sites are available, and an abundant water supply is furnished by one or more permanent spring runs. They are surrounded by a six foot wire fence, a portion of which is buried in the ground to afford maximum protection against predators.

Today, 21 of these areas are helping produce many of the wildest turkeys ever found in Pennsylvania. In early spring about 30 turkey hens, carefully selected from the best stock at the Wild Turkey Farm, are released in each area and wild toms from surrounding woods fly into the open top pens to mate with them. Later the first clutch of eggs is gathered and taken to the Wild Turkey Farm near Montoursville for incubation and hatching.

Those hens whose first clutch of eggs was transferred to the turkey farm are allowed to hatch a second clutch while the hens in other enclosed areas are allowed to hatch young from the first clutch and later to leave the fenced enclosures with their brood.

When the birds are placed in these areas, the flight feathers on one wing of each hen are pulled out, rather than clipped, permitting the bird to become full-winged by the time the young are ready to leave the pen. By late summer the propagation areas are empty, the hens and their young poults having been given their freedom to restock naturally the surrounding forests.

Game Protectors like George Smith, left, of Lewistown and Elmer Alexander, right, of Belleville, shown on this month's cover collecting eggs from a propagation area in northern Huntingdon County are busy in early May on the unusual but important assignment of gathering the eggs for incubation.

PROPAGATION AREAS MAKE THE WILD TURKEYS WILDER

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JOHN S. FINE, GOVERNOR

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Let Mother Nature Care For Them

In June our woodlands seem to be alive with wildlife babies. Birds are busy feeding their nestlings, fawns drowse through the day in leafy beds and plump little rabbits in a fur lined nursery patiently await the evening return of their mother

Nature has definite plans for these children of hers intricate patterns of life that have stood the test of time for untold centuries. Any interference with these plans is usually detrimental to the creature concerned, yet every summer with the advent of camping and picnicking season countless bird and animal infants are uprooted from their natural haunts by thoughtless humans. "Lost" fawns are commonly "rescued" by folks who don't realize that a doe invariably hides her offspring at dawn's approach and seldom visits it during the hours of daylight.

Little bear cubs are frequently spirited away because of their ludicrous antics and cute, winning ways, but the fact that the old female bear is a far better mother than any human substitute seems to cause no decrease in these abductions.

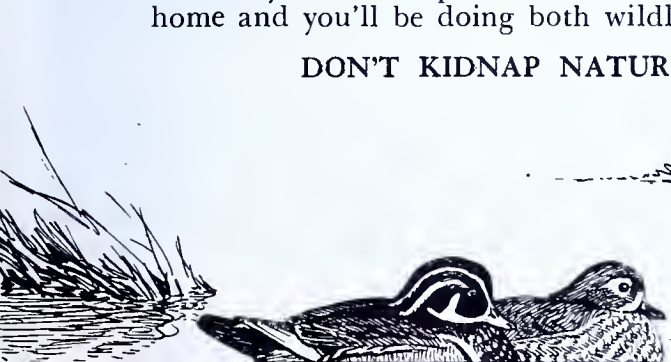
The number of young wild animals and birds that perish through improper feeding and care must be appaling, but the captive is not always the victim. Constant association with humans dispells the natural fear of mankind found in most wild animals, and when this takes place anything can happen. The most docile and inoffensive pet deer may unexpectedly assail its owner with flailing hooves and lunging antlers, and death, or at least horrible mutilation, can be the usual result of an attack.

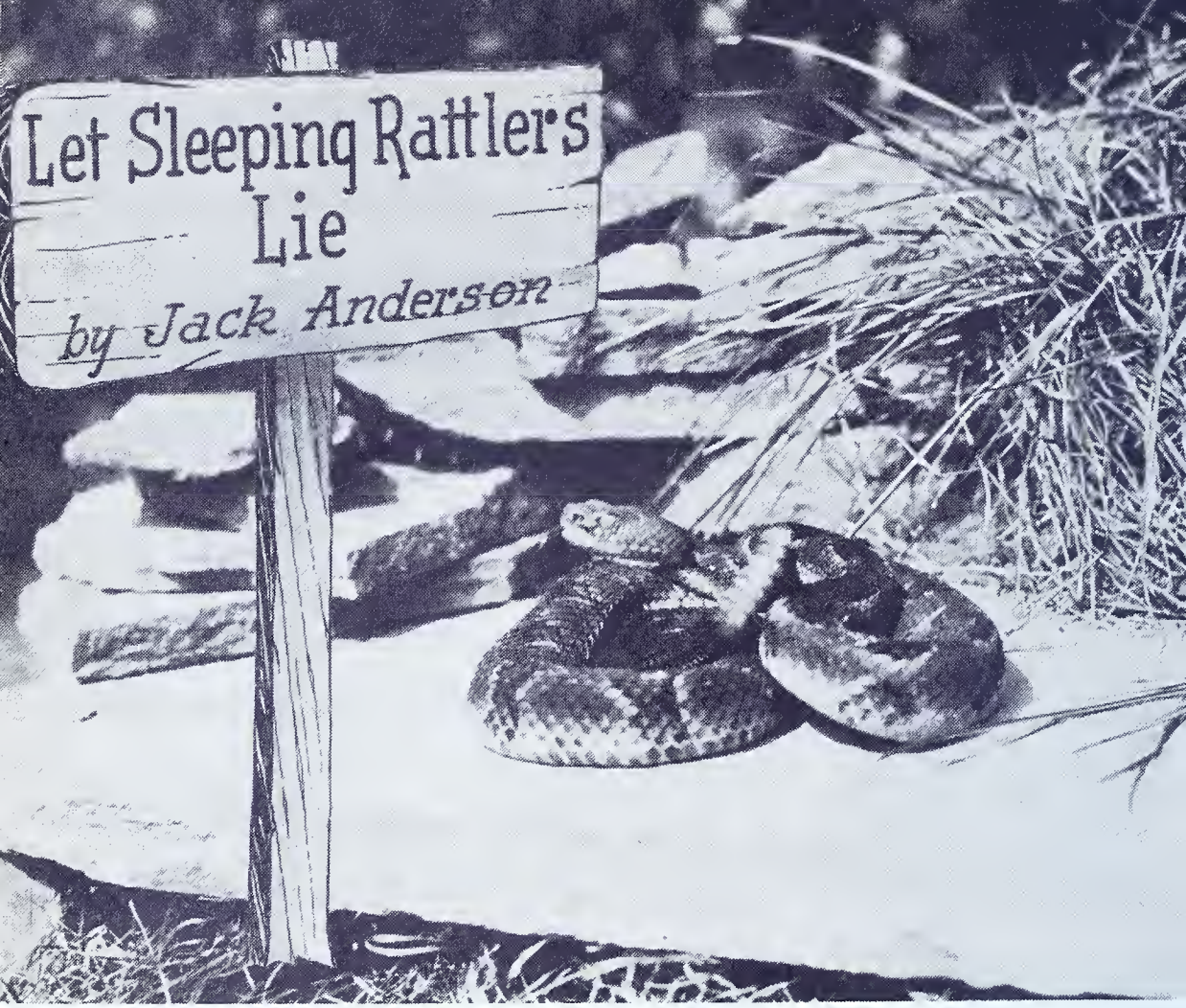
Pet black bears are treachery personified. Loveable as little rollicking, brawling cubs, they soon reach formidable proportions and their prodigious strength coupled with an unpredictable nature makes them a constant threat to anyone's safety.

Attacks upon humans are not confined to large animals, by any means. Raccoons, squirrels and skunks are among the most frequent offenders and many of the larger birds are extremely dangerous.

For the good of all concerned young animals and birds should be left in the wild. They have every right to a free, healthful, unfettered life, eating the right food, living in the proper environment and tutored in woodslore and self-preservation by a devoted parent. Give them the freedom of Nature's home and you'll be doing both wildlife and yourself a favor.

DON'T KIDNAP NATURE'S CHILDREN





WALKING a trail through pole-stage rock oak and maple from Upper Falls on Bushkill Creek to Mosier's Knob rattlesnake den, Charley Labar, Jake Kintz, Lloyd Martin, Glenn Bragg, Clarence Cramer silently move ahead in morning sunlight, all using snake sticks as canes. You remember the tale about an old-timer—call him Jim Faber of East Stroudsburg—who let rattlesnakes bite him and was so full of poison, he said, the rattler alone got sick.

You shudder, thinking of long, sharp, hollow, dead-white fangs suddenly deep in your soft flesh, of poison shooting up-arm, hot as your G.I. tetanus shot, of ill sensations and heart jumping like a wounded buck to pump its blood. Sickening bits of imagination!—especially when headed into Mosier's den and the bigger, snakier den beyond. But you recall, as the tale went, Jim Faber didn't die of poison but of ordinary organic disease.

So much for Jim Faber—only a quarter-mile to Mosier's Knob. You think: get alert, as alert as the woods seem now. You'd been thinking last night that Spring breaks within men, just as it breaks in the outdoors: then, men wash frost from their thoughts, ice and snow from hearts and souls; men feel, and are, warm, and freshly green as the forest in this Spring sun. Feel alert and bright as Spring, now—you need to be like that, you'll be face to face with rattlers, soon.

You get the plan from Charley Labar, caretaker of Easton Anglers, a lanky hard-as-hickory woodsman who you know, as he stands pointing with his snake stick, his blue eyes clear in sunlight, would sleep in a rattler's

den as softly as you sleep in your best bed.

"Kinda warm today, snakes may be out on top—maybe in the sweet-ferns," Charley said, slowly chomping his tobacco. "Couple of you go around the upper side. I'll go around the bottom and kick around the rocks. Meet you on the north side of the den."

"Watch your step," Jake said. "If you see one step careful, there might be *two.*"

Then the snake-hunt is on.

To orient the reader, you are in the eastern Poconos, twelve miles northeast of Marshall's Creek, and though you've just seen the last of April, Bushkill Creek, which you've crossed on a screeching swinging bridge, hasn't the summer stain of tannic acid but carries a belly-full of roily ice sludge and Spring rain. For all but one, this Spring snake-hunt is a yearly jaunt you look forward to, like November first. That one exception, Glenn Bragg, member of Easton Anglers, decided to walk along, armed with still camera and eight millimeter motion picture camera, after reading of last year's snake-hunt in GAME NEWS.

Glenn walks with you, around so many boulders it makes you think God, in angry mood and disgusted with his own creation, dumped them here in the woods. You notice these boulders face the south . . . that's a good snaky sign, men.

"I'm not walking around too much in here," Glenn said. "Holler if you see a good sized subject. I want pictures."

From rock to rock you jump like a kid playing hop-scotch, and while jumping you're hunting closely, hearing brush snap as Lloyd Martin, Jake Kintz, Clarence Cramer and Charley Labar search below. You think: maybe nobody's sunning himself today. You think that, then you see a fat black lump of rattlesnake. The old, four-foot, horn-headed gentleman is taking a morning siesta between two big mossy rocks, and you can bet he's got a mouthful of poison he'll gladly share with you.

You're ready to call Glenn when you hear someone noisly scrambling up a rock, and turning, you see it's Glenn, forgetting the cameras and watching the black gentleman who is now motionlessly giving you the evil eye. You move in on the snake.

Most rattlesnakes stare from green wicked elliptical eyes without moving, and suddenly, as this black fellow, they feel fear and whip themselves for cover. Snake and you move together, you pinning him with the fork stick just before he reaches cover, the snake buzzing so the woods vibrates, and thrashing to get out from under the stick. Just then you think: *was this snake alone?*

Charley Labar isn't far below, so you hear him arriving and teasing Glenn, who watches from a perch atop a boulder.

Then there is urgency in Charley's voice. "Hey, watch out!" . . . And it's you he's telling.

You've been walking around the snake and you needn't ask where the eyes have been—they've been on the snake, but good. Now you hold the snake under the stick and look behind you, where Charley points—and you see another silent, sullen black rattler you missed seeing . . . and missed stepping on by a foot.

Jake had warned: there might be two snakes. It makes you realize that snake-hunting calls for men with open eyes; men as alert as Spring.

Glenn smiled over his cigarette. "This is the snakiest place I ever saw."

"I kinda believe they're starting to leave the dens," Charley said, and helped Jake Kintz tuck the two snakes in a sack.

Each year Jake Kintz dumps the fattest rattlers in a burlap sack and takes them home, to use for summer lectures. Once Jake put four

rattlers in a Stroudsburg merchant's window and not even the merchant would enter his store after the snakes somehow crawled out. Jake got the rattlers after a long snake-hunt on shelves and under counters, but now the Stroudsburg police had told Jake they did not look kindly on snakes within borough limits. All of which gives Jake a hearty chuckle.

You smoke a cigarette, then the snake-hunt goes on.

Watch on logs, and even up on brush and bigger snags, you think. You recall how deadly those rattlers looked and how close you were to trouble. Remember too, the report of a game protector near Johnsonburg, of a rattler four feet above ground in blackberry bushes. Watch careful-like . . .

Then you hear another rattlesnake buzzing and see Charley pinning one up in the sweet-ferns. "Little yellow devil," he said. "I'll stomp him." You hear him doing a thorough job.

More buzzing below, and Clarence Cramer has one down. He's a giant yellow fellow so sluggish he lay still until Clarence cut off his head with a pocket knife. Then the headless body thrashed.

Standing over the snake you remark, "Whew, what a stink!"

"Funny thing, rattlers stink more some days than others," Charley said.

"Warm days seem worst," Jake said. "Some guys say the smell is like cucumbers. It ain't to me. A rattler's smell is only like a rattler's smell, and no use trying to tell somebody what it's like."

"Yeah, and don't let somebody tell you he can sniff a rattler when he's around," Lloyd Martin put in. "If you try it, you're liable to find yourself sucking out poison. Let your eyes and ears be judges in rattler country."

You keep your ears open, for here is snake talk from men who have picked up rattlers and looked them squarely in the eyes and have pushed the deadly milk right out of their cussed fangs. This isn't book snake-talk; it's real as a rattler's smell.

Take that old "saw" about blacksnakes chasing rattlers out of a territory. Two years ago you saw a very-much-at-peace blacksnake sunning itself between two coiled black rattlers, and you'd have thought they were triplets in a crib. Surely you know the two species will fight (you may have read Game Protector Logan's story of the blacksnake's victory in the GAME NEWS) but so will you and your wife fight, on occasion.

You have seen blacksnakes and rattlesnakes together in a den and you know they *will* tolerate each other.

So you know a little more about rattlers—and you hunt on, Charley saying you'll have another swift look around Mosier's Den and then head toward a big den that Charley discovered years ago. The big den coming up, you think. Bigger excitement. Stick around.

It's been a rainy, dreary Spring, but today the sun has the power of a 35 calibre, and we're all sweating. Snake-hunting is a sport for a hiker, because the Pocono dens are all remote, one of our favorites, the Coolbaugh Den, four miles from the nearest road. Starting toward Clarley's Den, Glenn Bragg, oldest of the group, admits he's carrying sinkers on his feet.

Outside of the sport (and it *is* sport, believe that) snake-hunting is good conservation, if you like wild birds better than snakes. For snakes eat the eggs of birds and young birds also. Too, you can sell rattlesnake skins and the rattles to tourists; live snakes to exhibits and zoos; meat to exotic fanciers (there is a yearly rattlesnake dinner in Allentown); and venom if you can get yourself recognized as a herpetologist. The Pocono region has many snake-hunters. You meet Lou Cramer, one of them, on the trail to Charley's Den.

Lou Cramer is a small wiry man who wears spectacles and you'd think of him as anything but a snake-hunter. In the woods he carries a long broom-stick with a hook on the end. He carries this, he says, to fish snakes from beneath rocks.

On the mile-long hike to Charley's Den, you remember the big yellowish rattlesnake you killed last fall. Jake Kintz made a long slice down its white, banded, under-side, and then nine sacs dropped to the ground. There was a snake in each sac and while killing them, Jake reminded everybody those unborn rattlers were already deadly if they pricked your skin.

Deadly. Yes, you know rattlesnakes are deadly. You think: snake-hunting is teasing danger. It's twelve miles to a doctor. Jake Kintz has the only effective woods treatment a suction snake-bite kit, and after that story you read of a Pennsylvania game protector who was bitten by two rattlers and survived a two-mile hike through the forest you feel better, but rattlesnakes still are dangerous.

Through a cloud of tall, straight hemlocks you see a very rocky ridge. Charley Labar halts and turns. "This's a big den," he said.

"How do you know exactly where the den is?"

"Year after year you find the snakes in the same place. I never found a snake beyond this nest of rocks I call the den, even though there's rocks for another half-mile. Snakes are funny people, they don't seem to ever hunt new places."

"If a guy finds a rattler then in early May or October, he's pretty sure to be near a den."

Charley gave the nod. "But I doubt that all snakes den up. But if you found say two rattlers there, I'd say you were close to a den."

"Charley, did you ever hear that story of Jim Faber, the guy who left



rattlers bite him? You know, they say—"

But Charley had turned and was walking toward the den, the others following, so you drop the subject of Jam Faber, the old-timer who was supposed to be immune from rattlesnake bites.

It was hot enough now to make you stop every now and then and blow like a work-horse. This was the sort of a day rattlesnakes crawled out from the rocks and into the semi-shade. They dislike both cold and direct sun.

You haven't reached the den as yet when you hear that loud, rough, tell-tale, buzzing. Nature was a tattle-tale when it put the rattle on the rattlesnake; or perhaps Nature was being kind to other wild creatures. A rattler's buzz carries several hundred yards in the forest.

You hear a rattle, look up, and see Lou Cramer upsetting rocks and then reaching in with his long hook. No more than a second passes, and then Lou has the rattler hooked through the middle and hanging on the pole, a very angry, very noisy four-foot snake.

"Two more in here," Lou called.

Charley Labar and Jake Kintz run forward, listen, and start digging like a pair of groundhogs, slapping rocks behind them. You hear the alarmed rattlers buzzing. Its buzz gives you the creepy feeling the ridge is full of them. *It is.* Soon another rattler sounds off from beneath another rock, and Lloyd Martin and you push aside the rock and corner two small yellow rattlesnakes.

You look these rattlers squarely in the eyes, and you kill them knowing they'd kill you, just as enemies on a battlefield, and then Clarence Cramer starts throwing rocks and he has another, fat, black, fellow.

It's snaky business, in Charley's Den! And standing up there on a big boulder shaded softly by a hemlock, Glenn Bragg takes still and motion pictures, and gasps that Charley's Den just about beats anything he'd ever seen. You feel yourself getting excited as a kid, because you've never seen rattlesnakes coming as fast.

Jake Kintz remarked that snake-hunting is the only remaining sport without a "limit," so we killed forty snakes before Charley Labar, our host, thought we ought to call it a day. We had a two-mile hike to the car.

How many times somebody has asked you: *What do rattlers do when you meet up with them in the wild?* Well, you know there is *no* answer. Sometimes, you find them coiled but asleep. Sometimes, you see them stretched out in the leaves, like human beings enjoying sun-bathing. Sometimes, but rarely, you find them moving through the brush (they travel mostly by night). And sometimes, you find them coiled . . . and ready to strike.

You know that nine times out of ten, you could step over a rattler, perhaps step *on* him, and step away unharmed. Rattlesnakes are not ever wrapped up like coil-springs waiting for prey; they have temperament, and are sometimes docile, sometimes sleepy, sometimes hungry, sometimes ferocious. Even individuals differ, some fellows so lazy they just won't strike. Yes, nine times out of ten you'd have a brush with a rattlesnake and never be bitten.

It's that tenth snake you worry about. He'll strike.

"Trouble is to keep a guy from going to pieces when he's been hit," Jake Kintz, a man with a lot of rattlesnake experience, told you. "You've got to keep the heart calm to keep it from pumping poison fast. When a rattler hits you, you've got to sit down. You've got to make a cut about a quarter-inch deep over the fang marks. You've got to use suction, either with a suction cup or your mouth—and if it's on your foot your buddy is gonna have to get down on his knees and suck the

poison for you. It's a rough deal, but it's that or Boot Hill.

"Most folks never seen a rattler wound. It ain't nice. A leg will puff up twice its size and get black as a thundercloud. As the swelling creeps up, you got to make more cuts and keep sucking out the poison. And then, when you've done all you can this way, you got to get to a doctor for a snake-shot.

"But I guess the most important thing of all is to keep hold of yourself. Don't run around like a wild man, for cripes' sake, or you're just inviting the undertaker!"

So you wonder, walking through afternoon heat down over rocks which keep you slipping and wrenching your ankles and then through brushy burned-over lands very soft to your tread, how you would have reacted to a rattler's bite. You think: after all, Jim Faber built up immunity to a rattlesnake's bite.

Charley Labar walks beside you, carrying a burlap sack of rattlesnakes, so you ask: "Charley, they say an old guy named Jim Faber of East Stroudsburg let himself get bitten by rattlesnakes and it didn't kill him."

"That's right," came the answer. Then, sadly; "Poor old Jim."

Then, suddenly, you know there was an ending to the Jim Faber story which you haven't heard. And there was.

"The rattler's bites never killed Jim—but you can't fool with rattlers and get away with it. You've got to keep your respect of them. Rattlesnake bites *blinded* Jim Faber. He died stone-blind."

Charley Labar, as all good rattlesnake men, never forgets he is playing with deadly poison. Keep eyes and ears open in rattlesnake country —and unless you know what you're doing, let sleeping rattlers lie.

Want to go along snake-hunting?

. . . *The End*

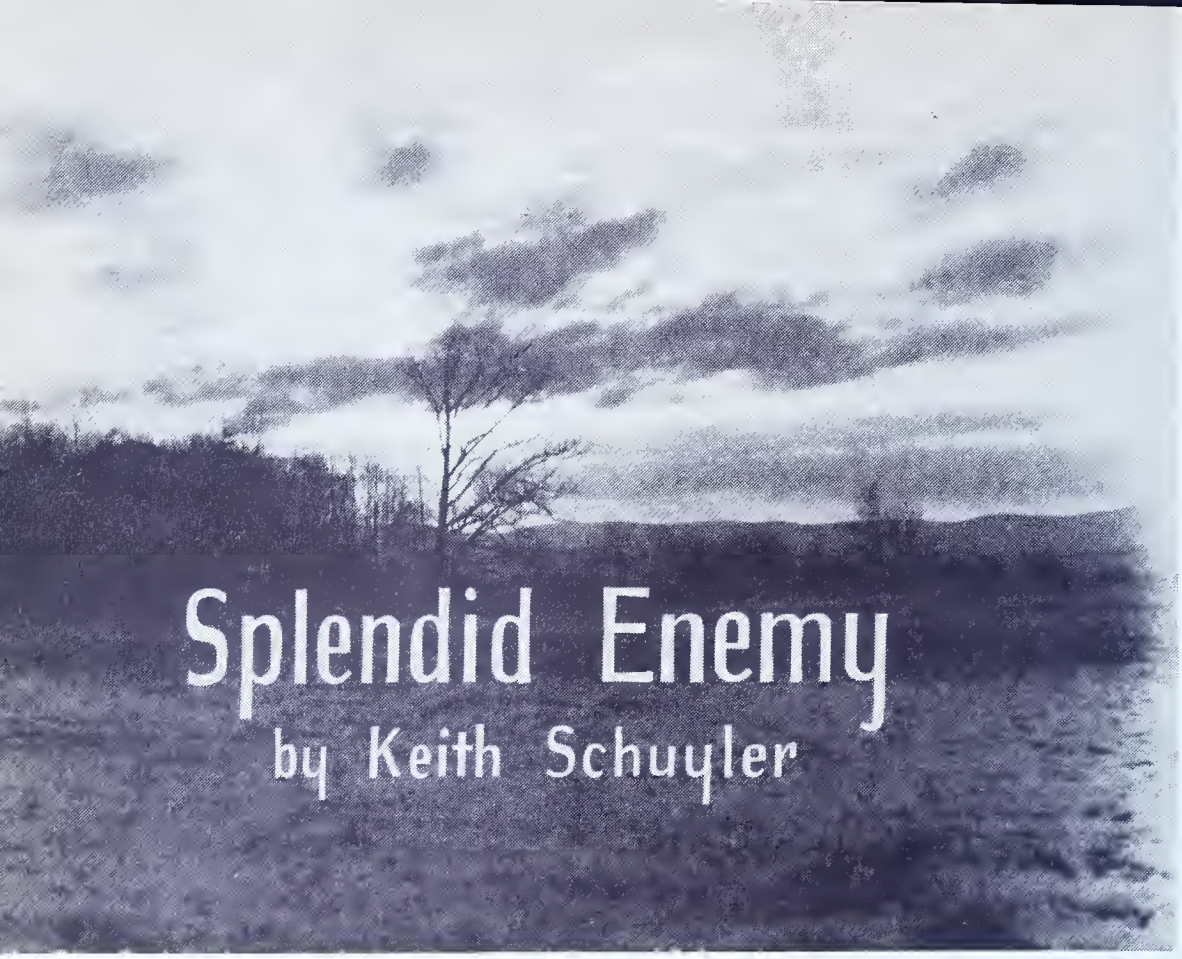
HUMAN HABITATIONS, INDUSTRIAL PLANTS COMPLICATE WILDLIFE MANAGEMENT TASK

The Wildlife Management Institute is an organization with one objective—to contribute to the nation's welfare by promoting better use of natural resources. In a booklet sent from the Institute's headquarters, Washington, D. C., are found these statements:

"The population of North America is increasing constantly and has been on the increase since white men first came to these shores. As long as the population multiplies, there will be more demand for living space and greater use of land for immediate human needs. From a wildlife standpoint this can mean only a constantly shrinking environment capable of producing and sustaining wildlife populations.

"Almost any local outdoorsman or sportsman who has lived in a community for years can tell of formerly splendid game coverts and fish producing lakes and streams whose production has vanished because of human encroachment. Everyone has heard of excellent hunting grounds that have been taken over, within the memory of living individuals, by large factory districts or thickly settled suburban communities.

"Along with this constant decrease in both actual and potentially productive wildlife habitat there has been a constantly increasing number of people who seek the wholesome outdoor recreation of hunting and fishing. These two factors together render the job of game management a different one. As an example, a good wildlife program in a given community could conceivably double the average annual game production over a period of 5 or 10 years. However, if a number of those who desire to take that game doubled, there still would be no more game for the average hunter than there was before the project started. Such factors complicate the work of the wildlife manager."



Splendid Enemy

by Keith Schuyler

IN A lifetime of hunting, the average nimrod seldom sees more than a few foxes when he is carrying a gun unless he is actually hunting for them. These cunning canines have learned the ways of man too well to expose themselves to hostile eyes carelessly.

It takes a man who knows foxes, studies them and hunts for them with a vengeance to find more than their tracks and the remains of the rodents and birds they consume. For although civilization has driven the wildcat, the panther and the wolf back to remote areas, or has completely exterminated them in most parts of the Eastern United States, the wily fox has managed quite well. In fact, he seems to be on the increase.

How Many Foxes?

Even so, when Dub told me that Hervey Keller and his gang were hunting the 100th Fox of the season in the Benton area, I could hardly believe it. Practically everyone in our section of Pennsylvania knows that Hervey is a rabid fox hunting enthusiast, but that many foxes....!

Finagling an invitation to go on the next hunt wasn't as difficult as I thought it might be. Hervey doesn't like a big gang when he hunts, but Dub said there would be room for me on the next trip out.

I intended to only take a camera. However, it was gently, but firmly, explained that I would be expected to take my gun, too. Maybe I wasn't taking this thing seriously enough. Most of the fox hunts in which I had participated had turned out to be enjoyable frolics which provided an excuse to get out in the open and had little or no effect on the fox population. These boys meant business.

After arrangements were completed, I thought about the hunt with considerable anticipation. One hundred foxes! With over two weeks in March remaining in the dog training

season, they were almost certain to reach that figure and probably more. (Actually, the total killed in front of the dogs for the entire season was 110 foxes for what is believed to be the record in Pennsylvania.)

Trappers had established some excellent records in year-round trapping in the past, but killing one hundred foxes in the seven-months running season was unheard of in our section. The state's four dollar bounty on foxes has served to control them somewhat, but apparently they were more than holding their own.

Only one red fox had been killed by Hervey's gang, and I was later to learn the reason for this. It is unusual, however. The gray fox is a relatively new species to this section where the red at one time had little competition after the wolves and cats retreated. I personally believe that old timbering operations, which provided ideal rabbit and grouse cover, attracted the grays in from the south.

The red fox doesn't seem to be compatible with the gray, and the more beautiful of the two species is moving out of areas in which he was formerly plentiful. He likes the wide open spaces and is antisocial in regard to animals other than the opposite of his own species.

Red, Black and Silver

Although it is not generally known, the black fox and silver fox are true red foxes and merely different color phases of the same animal. These variations have made themselves popular to furriers and are bred on so-called "fox ranches" just for their fur. The same furriers scorn the inferior fur of the gray fox and the present market allows about twenty-five cents for a pelt.

Quality of the fur meant nothing to us. A load of number 2's from a shotgun leaves little to be desired from the pelt other than the state bounty which goes to pay for Hervey's gas and oil for his car and feed for his dogs.

I picked up Dub and Joe early so that we could drive the twenty miles to Benton in time to get a picture of the gang and some of the foxes that had been killed before we started the hunt. On the way over, Dub told me more about Hervey.

Record Hunter

A retired farmer, the Columbia County hunter has forty-five years of following the foxes behind him. He has never failed to get less than twenty foxes each year, and his record for the previous three years was seventy-two, seventy-six and eighty-four!

When I say, "His record," it must be assumed that it is not always his gun that downs the fox. However, Hervey knows the way of the fox so well, that it is more often than not that he makes the kill.

He lives and breathes fox hunting from August 20, when the dog-training season begins, until the last day of March, when it ends. Down through the years he has developed his own strain of fox hound. Unencumbered by pedigrees, Hervey bred a cross between Walker and blue tick that has resulted in a powerful, mild-mannered and devoted strain which learns to know one thing best—how to follow a fox.

Twenty miles by automobile doesn't allow much time for research when you are in a hurry to go fox hunting, and I was more than glad when we pulled up in front of Hervey's home. He was finishing his last cup of coffee, and Ralph and Boney were already there.

Shaking hands became just a formality. One look from Hervey, and you know that you have been friends for a long time.

It didn't take long to hang up some of the fox carcasses he had saved without skinning from hunts of the past week. While Hervey



went to the kennels for the dogs, we spread some of the hides around that had been received back from the Game Commission where they had been sent for bounty.

In an aside, Dub nudged me. "Ask him what he calls the dogs?"

All Jacks

"They're all Jacks," Hervey grinned in answer to my question.

Dub caught my eye again, so I asked why he called them all Jack, and how did he tell them apart.

"When I call one of them," said Hervey, "I want them all." Then he grinned again as the others chuckled. "This one's Old Jack, he's seven; this one's Middle Jack, he is three and one-half; and this is the pup, Young Jack, only a year and one-half old," he explained pointing them out.

He had five of a kind, I was told, but one dog had been shot by a foolish hunter the year before, and another was struck by a car.

Benton lies back in the country along the best fishing stream in the county, and it didn't make much difference which direction we took. But, we headed northeast toward the timber cuttings at a slow pace so that the boys could watch along the road for tracks from the cars.

Two of the gang worked a recent cutting for tracks at the first stop without success. We made our first serious try at an old cutting along Pine Creek. It was a comparatively small patch, and the entire gang spread out to work it over quickly. The dogs were released from the car trunk, and they preceded us into the brush with wild elation at being free.

After a considerable struggle with the briars and no sign of fox tracks, I drifted back toward the car and ran into Hervey, Dub and Joe. Hervey had just about decided to give it up when from a wooded hill across the creek came a mournful howl.

"That's Old Jack!" Hervey's face brightened.

A moment later the other dogs cut in and the chorus gradually faded into a murmer of dog talk occasionally punctuated with one of Young Jack's high-pitched squeals.

Hole In One

Hervey said they were still cold-tracking, but they had him figured. As the sun partially hid behind a graying sky, we moved around a bit to shake the chill. We didn't have to wait long; and when the dogs came into hearing again, the fox was up and moving. We were spread once more through the brush waiting for him.

The fox led the dogs out along a rocky ridge above the creek at high speed as I strained my eyes for a glimpse of a bushy tail. But they were just out of sight, and I looked in vain. Then the music stopped abruptly.

When I met a group of the gang again, Joe suggested that the fox had holed, and Hervey agreed with him. Old Jack soon appeared with Ralph, and the hound led us across the creek and up to the top of the precipitous bluff. There he showed us where Reynard had picked himself a safe haven in a hole beneath a tree.

With no chance to dig him out, we were forced to give up.

"That must have been a she fox with pups in her to make such a short circle," Hervey surmised.

After a quick lunch, spaced with good-natured jibes at Hervey from the gang, we struck a trail near Fairmount Springs that provided an experience which proved all that I had ever heard about Hervey's hounds.

It was just a dead-looking track in the snow, and even Hervey had his doubts. However, he said if we wanted to try it, he would release the dogs. With over half the hunt behind us, and no proof of our efforts, we were more than willing.

Old Track

According to the time of day, that track had to be at least six hours old. And, it was badly melted in from the morning sun. However, the dogs hadn't gone fifty yards before they were arguing for position, and the chase was on. The hounds were still cold-tracking when they went out of hearing.

It looked like a long chase, but Hervey's know-how cut it shorter than the fox intended.

All of the gang except Hervey, Ralph and I, had cut into the brush to take a stand. At his suggestion, we piled into my car and drove around the hill and up a rough log-road to intercept the fox. Hervey had figured the chase well, and we arrived ahead of our quarry although by now it was obvious from the sounds on top of the hill that the fox had been moved from its bed.

We had no sooner taken stands down along the steep road when I heard Hervey's gun bark. There was a squawl of pain, then I could see Ralph throw up his gun. His shot was immediately followed by another from Hervey. The sound of the hounds was momentarily drowned out as the hills reverberated from the blasts of the shooting. I rushed toward the two men.

The dogs crossed the road in full tongue as I puffed up to where Hervey stood shaking his head.

"I hit him," he exclaimed, "but he jumped up and came on across the road! Then I couldn't shoot because he was in line with Ralph. We both took a crack at him as he went down through the woods, but we never touched him. Too thick."

"I couldn't shoot for Hervey," Ralph moaned. "Had to wait until the fox was in that thick stuff."

Hervey started to say something, then he caught himself. The racket down in the woods had suddenly ceased. He waited a moment for the hounds to howl "holed," but no

sound came. Then a big grin began to build up on his face.

I knew that Hervey had made it one hundred.

One of the fellows following the dogs brought the fox up from the thicket in which it had died from the effects of that first shot. After allowing the dogs a chance to worry the carcass as a reward for a fine chase, we called it a day.

Fortunately, that was just one day. There have been many more, and they will continue just as long as there are fellows like Hervey and his gang to assist in keeping down predators.

We have more predators today because we have more game. Few hunters will believe that unless they give it serious consideration. However, they must realize that there are now approximately one million nimrods taking to the fields and woods each year. In 1948, they killed 11,142,584 pounds of game.

Protection Needed

Yet, even this does not seem enough to most, and we must continue to protect this game to insure the continuation of our sport. Too many are concerned with the killing of game alone; too few with the protection of it.

It is conceded by all true sportsmen that the actual meat involved has little to do with the sport of hunting. These fellows take as much satisfaction in downing a great horned owl or a crow or a fox as they do in taking one of the protected species in season. It would be foolish to say that none of us has a game dinner in mind when November 1 approaches each fall, but actually the regular hunting season is only a part of the enjoyment that may be had afield throughout most of the year.

A vixen will normally whelp from four to eight pups in each litter. Although the average fox may feed more on mice and insects during the late spring and summer months, it has been proved that he varies his diet with game during the fall and winter. An occasional renegade will enter chicken pens and wreak havoc among some farmer's poultry. In such cases he may kill a dozen or more chickens just for the fun of it.

Although he undoubtedly does a share of good, it is obvious that he can become a serious menace if not held down through shooting. Subject to rabies, he has been known to attack humans, dogs and other animals when afflicted by this disease.

Obviously, too, when three dogs can bring one hundred ten foxes to bay in one season over a comparatively small area of the state, his numbers need thinning in that section. When rabbits suddenly disappear in an area where they were formerly plentiful, it is often the fox who knows the answer.

Welcome Fox Hunter

In this day, when trespass notices are becoming all too common, the fox hunter is one fellow who seldom is turned away by the farmer. He is hunting for the sheer enjoyment of the sport. Yet, he is rendering a service wherever he goes.

A fox hound is one pet that can pay his way. The ability of these dogs to follow their wild cousins is nothing short of astounding. Keller's dogs brought a gray fox back to the guns in an hour after being put on a trail that was known to be at least sixteen hours old. The fox had been seen crossing the road at four o'clock one afternoon, and the hounds were not given the track until eight o'clock the next morning.

Although the gray fox is not considered as smart as his red brother, he makes faster shooting. Whereas the red may take the dogs into the next county and consume an entire day for one chase, the gray is inclined to make a shorter circle. As a result, Hervey's gang has killed



"Old Jack, Young Jack and Middle Jack" pose with their owner and some of the 110 foxes they have brought to bag.

as many as five grays in a single day.

However, out of their total of one hundred ten foxes, only one was a red. Hervey can easily pick the spraddle-legged track of the red from the more in-line step of the gray, and he will usually ignore the track of rarer species. He doesn't want to eliminate either as long as he is able to hunt for them.

Then, too, the gray is more apt to hole after a relatively short chase and may be dug out. Or, he takes to the trees and can be shot from a limb. Three foxes were killed in a minute's time last season when one took the dogs to an old iron ore testing hole. One was killed in the hole, and the other two were downed as they attempted to escape.

Easiest hunting comes in the fall before the young foxes have learned the tricks of their elders. However, in late winter and early spring, you are up against creatures that have all been graduated from Mother Nature's intensive course of training.

Crafty and cunning, the fox is a worthy adversary of any hound or hunter. He claims the respect of all who know him, and we would never want to see him disappear completely. But it's fun trying to keep him from becoming too plentiful.

He's a splendid enemy.

. . . *The End*



Outdoor Reveries

By John H. Day

Mountain Music

WE STOOD on the edge of the cranberry bog and listened humbly while the veery poured his waterfall music all over the landscape. We had just finished a two-mile wade through alder and chokeberry tangles and were in good mood for the cool refreshing strains of this elusive thrush. The outdoorsman has not completed his apprenticeship until he has heard the slim veery tune his cathedral chimes from the timber edging his favorite high country swampland.

Tanagers were singing in the taller oaks on the hillside behind us and we had noted the black necklace worn jauntly by the Canadian warbler who sang loudly as he went about the business of picking up his dinner in the thick growth just overhead. Four cedar waxwings flew over, conversing politely in their well-mannered way. This was the same quartet we had spotted earlier in the afternoon, sunning themselves in plain view in a tall sapling in the open glade.

From the far hill could be heard the ringing song of the woodthrush. Yel-

low-throats and the oven bird added their voices to the general chorus, while chewinks scolded vigorously at our bold invasion of their privacy. Amid all this mountain music the veery suddenly sang an opening selection. Instantly the bird chorus ceased, as though in homage to the veery's superb musicianship.

Seeming to sense that he had the whole stage to himself, the thrush performed like a true maestro. Against the hush which settled over the bogland he wove the magic skein of his sweetly mystical music, which seems to fall in a succession of trills without a break. We had driven many weary miles through rough country to reach that forgotten mountain bog, but I'll go back again tomorrow if that thrush is on the program.

I am not too certain that the place could actually be classed as a typical mountain bog. It has all the earmarks of a beaver "meadow," probably abandoned by the beavers not too many years ago, and now at the alder tangle stage of reverting to scrub woodland. Sphagnum moss and the large cranberry were quite at home in the spongy glade, as were skunk cabbage and several varieties of sedges.

A brook of medium proportions threads its way through this bog area. I splashed across and immediately roused a giant blacksnake, who slithered off at top speed. Deer signs were everywhere, even the "forms" where they had bedded down. Raccoon tracks were imprinted in the muck edging the brook. In the wilder portion I came across one track that could only have been made by his nibs, Mr. Wild Turkey. After spotting this footprint I kept one ear open for the sharp alarm note, but heard nothing.

Cinnamon fern, which likes to have its feet wet, was growing in great clumps all through the bog area. We also came across a station of the less common royal fern, which was new to me. In the hemlock woodland edging the upper reaches of the bog we came upon a single orchid in bloom. This was the round-leaved variety, with whitish flowers which are nothing to write home about.

Bog hiking is not an easy business. The boots required for this work get heavier by the minute and the muck seems to take fiendish delight in trying to pull them off with each step. On a humid day this kind of field work can be really uncomfortable. But when the veery sings during the hush of late afternoon and there's the possibility of a rare orchid behind the next tangle, the outdoorsman forgets all these minor annoyances and jumps right in with both feet.

I got involved with a haunted house the other day. I know it's haunted because the man by the roadside said so. So I went to have a look for myself. It was a forlorn looking specimen which had once been quite a place. Now the windows are all gone and a huge pine has been wind-thrown across one end of the roof. I followed the old lane, now grown over like a gloomy tunnel through the trees, and came out suddenly into the abandoned dooryard.

A fat groundhog lumbered ahead of me through the lush grass and disappeared into his castle beneath the doorstone. A sagging piece of the rusted tin roof clanked and groaned ominously in the light breeze. I climbed through the opening of a first floor window and moved gingerly across the wide board floor toward the doorway.

So far all was well. The only "haunt" I had seen was the groundhog who whistled through his teeth from under the stone sill. I stepped across a hole in the floor and pulled up by the doorway. A sudden explosion right smack in my face almost raised the hat off my head. I was thoroughly startled for a moment

until I discovered that my ill-mannered blundering about had launched a family of young phoebes.

These youngsters had stood it as long as possible, but when I got too close they rushed off madly in all directions, and gave me a bad scare to boot. Mine may not be the face that launched a thousand ships but it is certainly the homely mug that launched a quartet of phoebes. The nest was artfully constructed above the doorway, and so well camouflaged as to be almost invisible.

Just below the haunted house the brook-fed swale widens out in a sizeable reservoir. The sun had warmed the shallows and had lured the bluegills from the depths to enjoy an afternoon of lazing about. Almost anywhere along the shoreline a pebble tossed out brought a half-dozen of these little fellows on the double-quick to investigate.

Although an aspen or two by the water's edge were trembling and fluttering at a great rate there was hardly a breath of air stirring, and the water lay almost mirror-still. I followed along the shoreline, flushing a green heron out of a clump of willows, and scaring up a spotted sandpiper and a noisy killdeer. High bush blackberries were staging a great flower show in the tangles and I noted good indications for a bumper crop of raspberries.

Near the head of the dam I found a seat close against the bank and settled down to see what I could see. A green tiger beetle pursued his predatory tactics along the bit of shale beach at my feet. Dragonflies and damsel flies in great variety zoomed over the flats. The lazy drone of countless flying "bugs" milling about in the hot humid air lay like a blanket of unreal sound across the weedy inlet.

Suddenly I noted a grizzled groundhog coming down to the shore directly across from me. I swung the glasses on him and watched his confident bear-like swagger as he rolled along through the weed growth. I thought he was coming down for a drink but he waded right in and started swimming across, straight toward me.

At the halfway mark, still some fifty feet out, he pulled up in some debris for a check-up. The coast seemed clear and he plunged in again, veering off at a slight tangent which brought him to the bank about twenty feet to my right. I watched him scramble out on shore, shake himself like a dog and then disappear in the heavy growth on the bank. Soon the commotion he made in the timber behind me sounded like a team of horses trampling about.

The little Acadian flychaser has found a Summer home to his liking in the timber by this reservoir. He is partial to the beech groves which have worked their way across the hillside. His explosive call—"spit-chee!"—jumps out at intervals like an exclamation point in the dignified late Spring music of his feathered companions in the woodland.

The countryman suddenly finds himself once more knee-deep in June, "when every clod feels a stir of might," and notes the solid masses of shade in the timberlands. Now the flower show moves from the wooded ravines into the more open bog-lands and the old-field fencerows.

The countryside arrives at full fresh beauty in June. The trees are again clothed and in their right minds, the clover blooms in the meadow and the wild strawberry pushes its tempting fruit ever closer to the footpath. The countryman yearns to close his desk and say with the Hoosier poet, "June wants me, and I'm to spare!"

. . . *The End*



Fellows, You're Missing Something!

By Fred Schrader

WITH the snap of a twig, a slick young doe stepped clear of the dense scrub oak. For seconds she stood motionless—so still as to appear inanimate. Swishing her tail, the deer came to life and picked her way down the trail.

Head lowered, sharp eyes peering from side to side through the apertures under the masses of oak leaves, the doe edged to a clump of white birch. Under its shady spread, moss grew abundantly in the crevices of a granite outcrop. She nipped close to the ground, the succulent tops of this simple bryophytic plant.

Nervously she jerked her head up, sensitive nostrils testing the faintest breeze. Her ears tensed alert. Radar fashion they turned, trying to distinguish some sound alien to those of the nocturnal forest.

Reassured, the doe resumed browsing. Taking her leisure time, her keen senses missed nothing. She noticed the tender foliage of a low maple sapling and turned, muzzle uplifted.

Click! Flash! Startled, the deer drew back with a snort, whirled, and bounded back up the trail, melting into the night.

How could she know that was a cotton thread and not a twig brushing her shoulder?

Not five yards distant a concealed



The author's camera ready for action.

trap camera recorded on film—not the bulging eyed, frightened, nervous or bounding white-tail deer of most photographs; but the undisturbed, intelligent creature as it is in reality.

Fellows, here is a new sport to relieve those between-season-blues. To fill those long idle months between hunting and fishing season with a pastime that will try all the cunning, woodcraft and wildlife know-how you may possess. Ever pit your wits against those of a crafty old buck? Here is your chance any time of the year, with photographic proof.

As the sport is closely related to trapping, all wildlife is within the scope of this hobby. Become a little familiar with their habits, and the bear, fox, and mink, as well as the rest, will spring your camera sets as readily as deer.

Naturally, the sets vary with the animal group for which it is intended.

With deer, I have had far better results with the runway setup than the bait type, although saltlicks have induced this herbivorous species to photograph itself. On a well used runway, locate a sport where the camera can be set at right angles to it. Using number twenty thread, run the tripwire from a tree or stake across the trail to the switch mounted on a tree on the camera side of the trail.

Carnivorous animals go for bait and scents. In this case the tripwire has to be attached to the bait or be placed in such a manner that the wire is tripped in the effort to get at the bait. In this set, when handling the object used to attract the animal or the thread used in tripping the switch, use gloves. Bare hands leave human scent on everything they touch.

Now the equipment. Less expense is involved in this hobby than one might think.

The camera: Your present camera will serve the purpose. However, the longer the focal length of that camera, the larger will be the image on the finished negative. It should be encased in a box, to protect it from the elements. A headlamp reflector will adapt itself very nicely, being mounted on top of the box. Press 50 or number 22 flashbulbs are used, depending on the distance from the lens to the subject. Number 22 being the brighter bulb, it is employed where the longer shots are necessary. A six volt magnetic coil attached under the shutter and linked to the shutter release with a hook-formed piece of wire, actuates the unit. Dry cells are used to energize it. The wire link is adjusted until most of the lost motion in the shutter release is removed. It must have that hair-trigger trait. The shutter speed should be set at 1/25 of a second, to assure synchronization, depending upon the speed of the flashbulb to stop subject movement. For cameras not synchronized for flash, the speed of electricity is used to accomplish this end. If your camera has this feature, use the shutter speed needed to suit the purpose.

The switch: Any switch with a fine, smooth movement is suitable. It must make contact when a pull or pressure is applied, breaking contact

when this force is released. A balance or micro type will do nicely.

The tripwire: Number twenty cotton thread will serve the average need. Lighter or heavier may be used, depending upon requirements.

With an outfit like this, you are ready for visitors day or night. Using your camera, the cost of parts is negligible, as for the most they are just odds and ends.

The results depend, as in hunting and fishing, upon your knowledge of wildlife. Because the animal is so near the camera when the picture is taken, the majority of the results will be surprising. Most of the negatives can be cropped, while enlarging, to an image size of eight by ten inches, without much grain worry. The finished product will be rich in natural detail and of a subject size you will be proud to show friends, or hang on the wall of your den—proving as much as any deer head or fox pelt, how well you know the ways of the wild.

. . . *The End*





An Owl in Every Barn!

By Roger M. Latham

IT IS night and the interior blackness of the barn is broken only by the small patches of dark blue which mark the ventilation openings high under the roof. A rat scurries across the floor, hesitates as if sensing impending danger, and then patters on. There is an almost imperceptible whisper of wind rushing through downy feathers, a terrified squeal from the rat, a momentary rustling and scratching on the barn floor, and then, as quickly as it was disturbed, the silence grows as profound

as the blackness. Benevolent murder has just been committed. One less rat is alive to gnaw through floors and walls, to tear gaping holes in feed bags, and to pillage and plunder from grain bin to brooder house—one less of these filth-spreading creatures which have been termed "the most destructive animals on earth."

What was this benign creature which descended from the darkness on silent wings to prove itself an ally of man in his unceasing warfare against these destructive rodents? It was a barn owl—the mouser and ratter supreme—which scientists have discovered is capable of killing as many as four thousand rats and mice during a single year. Although probably not worth its weight in gold, the money, measured in good American silver dollars, that a barn owl saves the farmers of a community each year would certainly more than counterbalance this tireless bundle of flesh, bones, and feathers, especially since a barn owl will weigh less than a pound and a half soaking wet.

Certainly man needs an effective ally in his fight against rats and mice. In the United States alone, rats cause an annual measurable loss of at least $189,000,000 and the destruction caused by the several species of mice undoubtedly boosts this figure into the billions. Everywhere man's economy suffers from the depredations of these ravenous animals, and, at times, especially during "plagues," they may cause an economic crisis in certain regions.

Biologists estimate that the number of rats in small towns equals the human population and on farms the ratio is about two rats to each person. Some years ago the contestants in a rat-killing campaign in one county in Texas, which had a human population of only 35,000, turned in 153,720 rat tails in six weeks!

Plagues of mice occur periodically over many parts of the world including the United States. The first serious one on record in this country occurred in 1907 in Nevada. Here a population of field mice which reached an abundance of 8,000 to 12,000 per acre destroyed 15,000 acres of alfalfa and inflicted total damage to the amount of $300,000. The ground was so perforated with holes that it resembled a giant sieve. It was estimated that about 3,000 birds of prey and carniverous mammals were attracted to the plague district and that these predatory animals were destroying more than one million mice every month.

An even worse eruption occurred in California in 1926. During this outbreak, populations reached an unprecedented peak of 82,280 mice (mostly house mice) to the acre, and observers computed that one grain bin 20 feet square held nearly 4,000 mice at one time. Two tons of these rodents were killed about one granary in a single day. Trenches which were dug and baited with poisoned grain in an effort to stop the marching animals collected an estimated 85,000 dead mice to the mile. A sheep penned in a small enclosure was actually killed and eaten by the starving mice.

What are the destructive capacities of mice? Even though a population of 100 of these diminutive animals to the acre is not unusual, and during peak years the number may be much greater, as few as 10 field mice on each acre of 100 acres of meadow would take about 11 tons of grass or 5½ tons of hay a year. At this rate, the loss on the 65,000,000 acres of hay raised in the 38 "mouse" states of the country would exceed 3,000,000 tons of hay a year or a monetary loss in excess of $30,000,000.

Mice and rats are not the only destructive rodents which become exceedingly numerous and destructive. A tract of ten acres in the state of Washington was treated with poisoned grain. Two and a half hours later, 1,132 ground squirrels

(gophers) were picked up, and three days later 574 dead squirrels were counted on the same field. Many other small rodents, destructive to crops, orchards, livestock, and other property, from East to West, are reducing profits on farms and ranches.

It is hoped that the reader is now convinced that mouse and rat control is both desirable and necessary. His reaction may be: "All right, so we're convinced; so what? We have cats, we set out traps and poisons, but we still have mice and rats in the barn and more mice in the fields. Is there anything else a farmer can do to rid his buildings and land of these pests?"

The answer is an emphatic "YES." Many, if not most, of the problems of rat and mouse control on rural areas could be solved by the intelligent use or management of wild winged predators. Foremost among these is the barn owl, often called monkey-face owl, which already has been introduced to the reader. What advantages has the barn owl, and certain other birds of prey, over the more conventional means of rodent control such as cats, traps, and poisons? They have many!

First, how does the house cat compare with the barn owl as an efficient mouse-catching machine? Records show that one owl will catch as many rats and mice in a year's time as eight to twelve average cats. A government report tells of an instance where cats were placed in a rat-infested storage cellar of a brewery. When the doors were opened in the morning, the cats rushed out, showing every indication of fear, and fought against being taken back. An owl was placed in the cellar and the next morning nine headless rats were found. Each morning for three weeks, dead rats, partially devoured, were located in the cellar until finally the rodents became so scarce that the owl had to be fed raw meat to prevent starvation.

These pellets disgorged by a Barn Owl are composed of fur, bones and other undigested portions of his rodent victims.

Hal Harrison photo





Karl Maslowski photo

Growing youngsters are noted for their appetites and these Barn Owls are no exception. Plump meadow mice are common fare.

The barn owl probably hunts about 360 nights a year, and is discouraged only by extremely cold and stormy weather. On the other hand, we see the house cat curled before the fireplace or under the kitchen stove, provided milk and other food by its benefactors, and caring little whether the rats and mice prosper or die.

One investigator found that a pair of barn owls while feeding their young in the nest will capture *at least* 40 mice or other small rodents each night. A single wild barn owl under observation for a period of 90 days consumed 837 animals and captured but did not eat 360 more. As an experiment a half-grown barn owl was given all the mice it would eat. It swallowed 8, one after another, and the ninth followed all but its tail. Within 3 hours, the tail had disappeared and the owl was ready for a second meal which consisted of 4 more mice.

The diet of the barn owl is nearly one hundred per cent beneficial in terms of man's economy. The food habits of this bird, and all other owls, is easily and accurately studied because of its peculiar habit of ejecting stomach "pellets" at its roosting site. After an owl has eaten a meal, all skin and flesh is digested and passes into the intestinal tract, but all hair, bones, and other indigestible material is retained, shaped into an oval mass about two inches long and one inch in diameter, and is ejected from the mouth. Thus, all of the diagnostic parts of a prey animal are retained and readily identifiable by food habit technicians.

Wildlife investigators have collected and analyzed many, many thousands of these pellets in all parts of the country. They almost invariably reveal the same thing: the diet is almost entirely composed of mice, rats, other small rodents, moles, and shrews. As an example, a series of pellets collected in Washington, D. C., produced the remains of 225 meadow mice, 179 house mice, 20 rats, 20 shrews, 6 jumping mice, 2 pine mice, 1 mole, and 1 house sparrow. Another collection of 2,094 pellets from several eastern states yielded the bones and fur of 4,565 mice, rats, shrews, and moles. A few small birds, mostly starlings and house sparrows, 15 immature cottontail rabbits, and

a few miscellaneous items completed the list. Another lot from Pennsylvania, contained 817 meadow mice, 210 house mice, 103 deer mice, 103 jumping mice, 6 other mice, 243 shrews, 31 barn rats, 31 moles, 12 young cottontails, 40 sparrows, 12 starlings, 1 chickadee, and 1 young opossum.

But in contrast, the house cat appears to be relatively harmful to other farm wildlife. An annual report of the United States Department of Agriculture states that the ordinary farm cat is exceedingly destructive to small birds and game, and the number that cats annually kill is immense. House cats are usually too well fed to make good mousers and are believed to aid in the spread of diseases among human beings. In spite of the usefulness of *individual* cats in destroying mice, every community would be better off for a large reduction in its feline population.

The studies of several biologists have confirmed this contention. One investigator estimated that the house cats in New England killed 1,500,000 to 5,000,000 song and game birds each year. The loss of birds to cats in Illinois was placed at nearly 2,500,000, and a third investigator estimated the destruction to exceed 3,500,000 birds in the state of New York. During one study, 226 cats under constant observation killed 624 birds in one day during summer. Nearly every life history study of game birds, whether it be on ring-necked pheasants, bobwhite quail, Hungarian partridges, woodcocks, ruffed grouse, or others, points to the house cat as one of the chief offenders in killing incubating females and destroying the nests. Its destructiveness to cottontail rabbits, newly-hatched game birds, and recently-released, artificially-propagated game birds has been demonstrated again and again. Of one release of ten mature bobwhite quail in Pennsylvania, nine of these birds, which were leg-banded and positively identified, were killed and deposited upon the back porch of a nearby farmhouse within a few days. This cat cost the sportsmen of Pennsylvania $22.50 within one week. One can only wonder what her "bill" for the entire year would be. Individual cats will regularly kill thirty, fifty, seventy, or more rabbits during spring and summer where these animals are abundant. Conservation commissions and sportsmen's clubs attempt to replace a part of these by purchasing rabbits for liberation at about $1.25 apiece. Cats sometimes make expensive pets! Based upon these figures, the toll of game birds, insect-eating song birds, and game mammals taken by the 50,000,000 cats in the country must be appalling. Contrast this shameful record with that of the barn owl, which only rarely kills a beneficial bird or mammal.

These are the facts! The barn owl not only kills eight, ten or more times as many mice and rats as the ordinary house cat, but it also lacks the destructive habits and disease-carrying qualities of the cat. Now, how does the barn owl compare with traps and poisons in the control of small rodents? In cities, there is no other recourse but to trap or poison rats and mice or to depend upon the dubious efforts of cats because, ordinarily, few owls can be attracted into cities, and few buildings are accessible to them. In small towns and on the farm or ranch, poisons and traps may be quite effective in reducing the numbers of these pests, but they are expensive to use, they may endanger livestock, and their effectiveness is only temporary. As soon as most farmers poison their mice or rats, they forget them until they again become sufficiently abundant to attract attention. Then too, few farmers bother to attempt conrol of mice living in the fields, even though they may be doing as much damage as those living around the buildings.

The barn owl, on the contrary, exerts a constant pressure on the rat and mouse populations, both in the buildings and in the fields, and its work is absolutely free of charge and does not in any way endanger poultry or other livestock. And most important, this method of control requires no time or effort on the part of the farmer after he has once provided a suitable nesting and daytime-roosting retreat and has successfully established one or more pairs of owls in his barn or woodlot. As one biologist described it, "The barn owl is the nonpareil of rat traps, never needing baiting; never having to be set. It functions every day, winter and summer, from dust to dawn, and it has a voracious appetite."

It is not difficult to attract these owls to a particular farm. Usually all the farmer needs to do is construct a crude nest-box inside the barn or in one or more trees. A Pennsylvania orchardist, hoping to alleviate mouse damage to his fruit trees, placed a number of small nest-boxes in the orchard and was rewarded by having thirteen to fourteen pairs of screech owls respond to his kindness. He reported an appreciable reduction of mice.

There are three other avian predators which can be recommended along with the barn owl as being effective agents in rodent control. The screech owl and the sparrow hawk, which live predominantly on mice and large insects and are recognized as being decidedly beneficial to the agriculturalist, both nest in hollow trees but can be induced to use substitute boxes wired in trees. For these two birds, which are both small, the entrance hole should be about 3 to 3½ inches in diameter. The box itself should be about 16 to 18 inches deep, about 7 to 8 inches square, and the entrance hole should be located at the top of the front panel just under the roof. For the barn owl, a similar box, but at least 30 inches deep and 16 to 18 inches



square, is adequate, or an old barrel with a 5 inch entrance hole cut out at the center is entirely satisfactory. The barn owl nesting box or barrel should be securely fastened in the highest, darkest corner of the barn or part way up in a good-sized tree. About two inches of shavings, sawdust, ground corn cobs, or other litter should be placed in the bottom of each nest box.

Long-eared owls, which are almost equally as benevolent as the barn owl, are partial to dense evergreen thickets. A clump of pines, spruce, cedar, or other conifers may harbor several of these small owls, and they will prey upon the mice in the fields. Most any farm has at least one untillable spot which could profitably be planted with evergreens.

There exists an unfortunate, deep-rooted prejudice against all hawks and owls which has been handed down from generation to generation through the centuries. Until the comparatively recent studies of wildlife biologists, all hawks and owls were believed to be destructive to poultry and game and were shot and trapped indiscriminately. There is no longer any excuse for this non-selective killing, for science has now segrated the good from the bad. The agriculturalist may complain that he is unable to identify the various hawks and owls, but this is because he has never made any serious attempt to study their characteristics. Does he not have to make a careful distinction between crop plants and weeds in his fields and gardens? Does he hoe out the potatoes or corn and leave the smartweed and sorrel? It is sad, but true, that thousands of beneficial hawks and owls, including the four just described, are shot by the very farmers and sportsmen whom these birds are befriending. One barn owl may actually save, in the value of crops which would have been destroyed by rats and mice, an amount equivalent to the sale value of a large hog or steer. Yet, a farmer may carelessly and unthinkingly destroy, with a single shot from his rifle or shotgun, his opportunity for many dollars additional profit.

Just by chance a farmer remarked to a friend that he had finally killed the owl which had been living in his barn. The friend, a serious student of bird life, accompanied the farmer home with the hope that he could demonstrate the need for wildlife conservation. A careful search of the barn turned up 85 pellets, and these were torn apart and analyzed while the farmer watched. Within a few minutes, the skulls of 145 mice, 51 rats, 14 shrews, 7 house sparrows, and 2 weasels had been separated from the hair and feathers. The farmer, chagrined and ashamed, took the owl down from where he had nailed it on the barn door and buried it. This man had learned a vitally important lesson, but it had cost the life of a bird whose only prerogative was its capacity for good.

The greatest hope for the future lies in the education of the rural population to recognize these beneficial forms. When it is for his own good, is it too much to ask that a man devote a little time to the study of the native hawks and owls? Probably the safest course to follow for the untrained would be to cease shooting all hawks and owls not actually caught in the act of destroying livestock or game. The chances are about 99 to 1 that any owl found inside a barn would be a barn owl, and every effort should be made to encourage it to stay instead of running to the house for a gun.

Who knows, perahps a fortune awaits the enterprising individual who is able successfully to rear barn owls for sale to intelligent agriculturalists willing to banish their prejudices and accept the beneficent services of these hard-working birds of prey.

. . . *The End*



meet the Will-O-The-Wisp

By Don Shiner

MANY sportsmen think the "Will-o'-the-wisp" and the Whip-poor-will are merely different names for the same bird, but the truth is the birds are quite different in many ways.

Both birds are familiar to those who have been about the camp or stream during the evening hours. The tireless call of the Whip-poor-will seems endless during the night and to many it is the friendly voice that stirs contentment within the heart as one sits close by a dying camp fire. On the other hand the Will-o'-the-wisp or Nighthawk has no intriguing call but merely utters small sharp squawks as it soars through the air high over the tree tops in search of its evening meal.

It is a long winged, graceful bird capable of staging long flights through the air in search of insects. It is particularly well adapted for this job as its beak and mouth resemble a huge scoop-shovel. The Nighthawk has no long beak, but an extremely short peaked one which, when opened, shows a mouth that extends the entire width of its head, from eye to eye. This equipment serves it well in catching and scooping in the insects for the evening meal. It is a true night bird, feeding and being active only in the evening after the sun sets in the western sky.

This bird is truly one of the wonders of the woodlands. Why it is generally seen only during the evening hours as it flies about is due to the perfect camouflage that nature has provided it. The plumage is a variation of black, gray, brown and buff. So perfect does the plumage blend with the surroundings that it is near impossible to see it as it

roots upon the ground or in low hanging tree limbs. Like the females of many species of birds, the Nighthawk is a good example of camouflage in nature and defies all predators by nesting on the open ground. It chooses to rear its young on the ground and lays two eggs directly on the bare earth. It particularly favors the cinders and gravel covered areas, stony fields or dried up stream beds. Here, with no preparation of building a nest, the female lays her eggs in the gravely open spaces seldom within yards of a blade of grass. The eggs are thin shelled and are grayish-white densely spotted and blotched with gray, brown, black and pale purple. These too blend so well with the surroundings that they are near impossible to see.

When the mother is frightened from the nest, she will, like the grouse, flutter along the ground giving the appearance that she has a broken wing or some other injury. It is her way of leading the intruder from the nest. When she has successfully lead the intruder well away, she will take instant flight and disappear in the undergrowth.

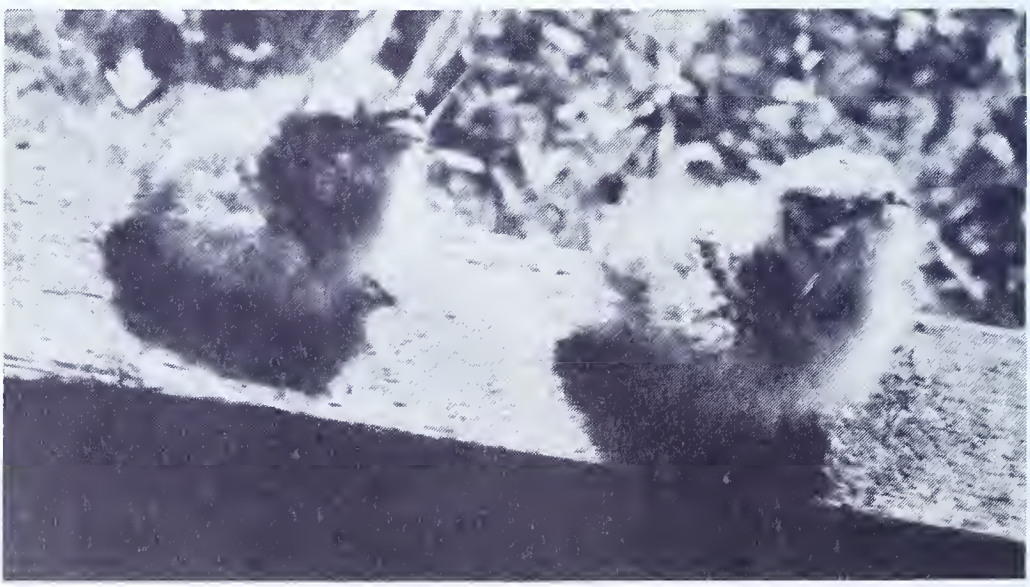
The young when born are covered with speckled colored down and are truly the prettiest pair of wood babies as one will find in the woodlands.

After the young are barely a week old, they become curious, like all babies of wild creatures, and search about the fields and edges of the woods for insects. The mother leads them to safety among the bushes and keeps a sharp eye on them until they can forage for themselves.

Perhaps it is not important to be able to distinguish the Nighhawk from the Whip-poor-will, but many sportsmen are stumped at this test even though it is far from difficult. Look for long whiskers about the bill or beak on the Whip-poor-will, and the large white band across each wing on the Nighthawk. You can also tell these birds apart by merely watching them fly, the Nighthawk soars high in the air and the Whip-poor-will makes only short flights in the woods and boarders of fields.

So look for this camouflaged wonder of the woodlands during the late evenings. You will see this 'Will-o'-the-wisp' soaring silently overhead, in quest of insects that we cannot see, but which are swarming there in the upper air.

. . . *The End*



Clarion County
Gateway to Cook Forest

Tenth In A Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

CLARION is a western county situated on the Allegheny Plateau. It was established in 1839 from parts of Venango and Armstrong counties and derives its name from the Clarion River.

Land Area

The county contains 383,680 acres of which 193,238 acres are forested and 190,442 acres are in non-forest land. Publicly-owned land comprises 16,701 acres and includes 12,142 acres of State Game Lands.

Topography

No part of Clarion County is mountainous, but some sections are extremely hilly while others are much broken. The Allegheny River drains the western part of the county, and also takes the waters of the Clarion River which flows through it from Jefferson County on the east.

Transportation

Railroad transportation is furnished by the Pennsylvania, the New York Central, the Baltimore & Ohio, and the Lake Erie, Franklin & Clarion lines. The 28th Division Highway (U. S. 322) and other important roads traverse the county, which has 434 miles of improved State highways.

District Game Protectors

Donald M. Schake, R. D. No. 1, Knox, has jurisdiction over Ashland, Elk, Salem, Beaver, Richland, Licking, Piney, Perry, Toby, and Madison townships.

William D. Denton, 1011 E. Main St., Clarion, has jurisdiction over Washington, Farmington, Knox, Paint, Highland, Millcreek, Clarion, Monroe, Limestone, Porter and Redbank townships.

Fish Warden

Norman L. Blum, Tionesta.

District Forester

James Cornely, Clarion.

Agriculture

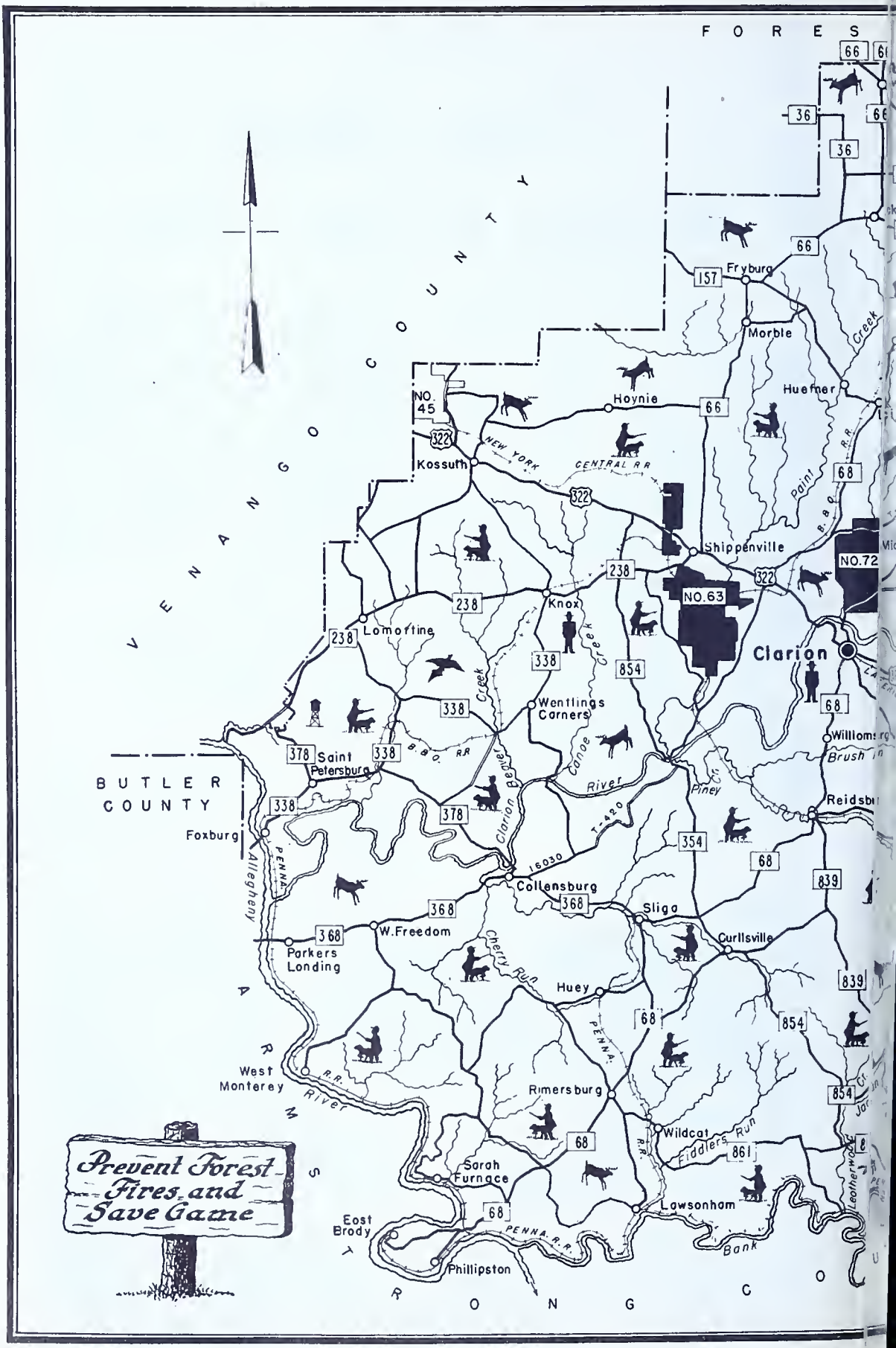
Agriculture was once of far greater consequence than it is today. Many farms have lost their fertility and have been allowed to lie fallow, the erosion caused by the clearing of forested areas having been an important factor in the decline of farm productivity.

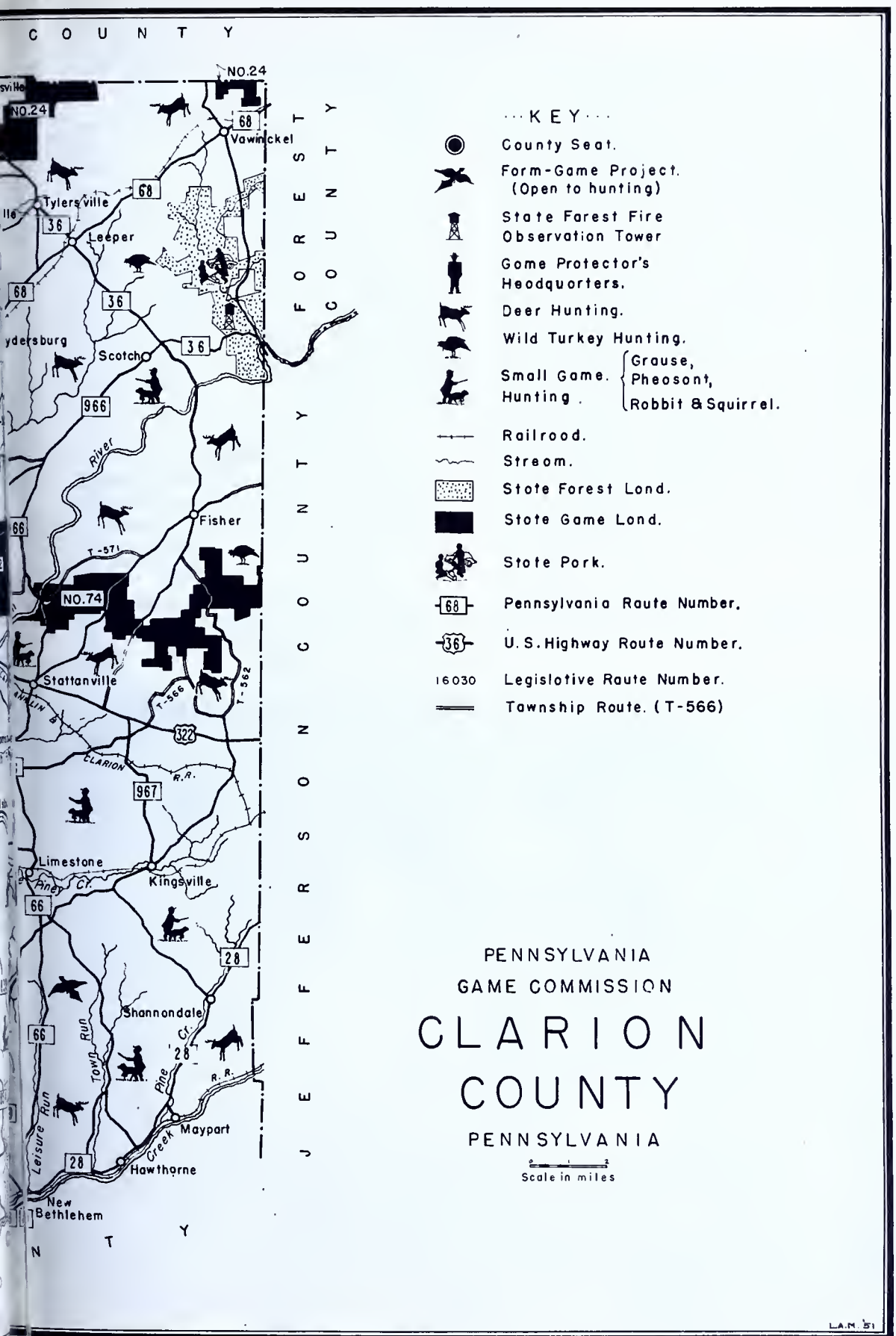
Industry

The principal classes of industry are mine and quarry products and clay, glass and stone products. Chief products include glass bottles and jars, bituminous coal, terra cotta and fire clay products, paper and cardboard boxes, and rubber goods. The county has extensive gas fields, an oil belt, sand for glass making, good fire clay and several bituminous coal mines.

Historic

Clarion County's pioneer settlers were predominantly Scotch-Irish and


F O R E S
V E N A N G O C O U N T Y
66
36
Fryburg
157
Morble
Huefner
Hoynie
NO. 45
322
Kossuth
NEW YORK CENTRAL R.R.
Paint Creek
B. & O. R.R.
68
Shippenville
NO. 72
NO. 63
238
Knox
Lomoftine
Clarion
338
854
Wentlings Corners
Clarion River
Canoe Creek
Piney Cr.
Brush
Reidsbu
Williams
B. & O. RR
Saint Petersburg
378
B U T L E R
C O U N T Y
Foxburg
Allegheny
PENNA.
T-420
16030
354
Collensburg
839
Sligo
368
W. Freedom
Parkers Landing
Curllsville
Cherry Run
Huey
A R M S T R O N G C O
West Monterey
R.R.
River
Rimersburg
Wildcat
Fiddlers Run
861
Sarah Furnace
Lawsonham
Leatherwood
Bank
Eost Brody
Phillipston
PENNA. R.R.
Prevent Forest Fires and Save Game


C O U N T Y
NO.24
68
Vowinckel
Tylersville
36
Leeper
Scotch
966
River
Fisher
T-571
NO.74
Stattanville
T-566
T-562
322
CLARION
R.R.
967
Limestone
Piney Cr.
Kingsville
66
28
Shannondale
Town Run
Pine Cr.
Leisure Run
Maypart
Creek
Hawthorne
New Bethlehem
JEFFERSON COUNTY
FOREST COUNTY
···KEY···
County Seat.
Form-Game Project. (Open to hunting)
State Forest Fire Observation Tower
Game Protector's Headquarters.
Deer Hunting.
Wild Turkey Hunting.
Small Game. Hunting. Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Forest Land.
State Game Land.
State Park.
68 Pennsylvania Route Number.
36 U.S. Highway Route Number.
16030 Legislative Route Number.
Township Route. (T-566)
PENNSYLVANIA
GAME COMMISSION
CLARION
COUNTY
PENNSYLVANIA
Scale in miles
L.A.M. '51

migrated from the older counties of the state. No settlements were made in present Clarion county until after 1800. About 150 persons settled here in 1801, making the journey through an unbroken wilderness and suffering great hardships to find new homes. The earliest means of livelihood other than farming were small saw mills which produced lumber that was floated to market at Pittsburgh. The Brodhead expedition of Revolutionary War days passed through the region in the campaign against the Indians of the upper Allegheny. Early growth of the county in population was rather slow and the greater part of the site of the county town of Clarion was covered with virgin timber when it was laid out and the first lots sold in 1839. In the pre-Civil War days of the charcoal iron industry Clarion County was sprinkled with the stacks of these furnaces and many of their ruins are still standing. The large stand of virgin timber in the county attracted the lumbermen and the county was also within the oil producing region of the State. By 1876 nearly fifty oil wells were reported being drilled in the county, which was at one time a leading oil producer.

The county is notable for its educational history. Clarion Academy was incorporated in 1840. In 1886 Clarion became the location of one of the State teacher training schools, now Clarion State Teachers' College. Another well-known school was located at Reidsburg and was known as Reid Institute. Clarion Collegiate Institute was established in 1858 at Rimersburg.

Recreation—Hunting

Clarion County offers some excellent grouse hunting and provides good small game sport. Opportunities for wild turkey hunting are being improved through the Commission's restocking and land management programs. The county also provides fair deer hunting.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stock waters) include: Mill Creek, brown and rainbow trout, Clarion, 7 mi.; Toms Creek, brook and rainbow trout, Cooksburg, 3 mi.; Allegheny River, black bass, Foxburg, 10 mi.; Piney Creek, black bass, Limestone, 7 mi.; and Red Bank Creek, black bass, Rimersburg, 20 mi.

State Recreation Areas

Cook Forest State Park was created in 1927 by an Act of Assembly for the purpose of perpetuating a portion of the original forests of Pennsylvania. The Park, containing 6,085 acres, is beautifully located along the winding Clarion River. Close by on the east, and bordering the south side of the Clarion River, are 9,000 acres of Pennsylvania State Forest. The Park contains the largest remaining stand of virgin timber, especially white pine, east of the Mississippi River and preserves for all time a remnant of the primeval Penn's Woods. Many of the trees now standing in the Cook Forest Park were saplings when William Penn took title to Pennsylvania in 1681.

Although the big trees, especially the white pines and hemlocks, are the principal attractions, the park is known throughout the State for its excellent facilities for camping, picnicking, hiking and nature study. Complete camping facilities are available. Log cabins may be rented at reasonable cost and permits are issued at a nominal fee for those who provide their own camping equipment. Information may be obtained from the resident officer.

Cook Forest Park may be reached over State Highway Route No. 36 which traverses a portion of the park area.

Hunting in the Home

By Caroline A. Heppenstall

Assistant Curator, Carnegie Museum

THE excitement of the chase is short in time and long in memory, but to the devotee, it is a part of life itself, and the hunting season is the only time when he becomes whole. Then the fields and the forest cannot be ignored and he turns eagerly from his accustomed way of life to join the myriad of others who would follow in the footsteps of their forefathers and delight in bringing to earth their own game. But now the sportsmen have oiled and cleaned their rifles and shotguns, consigned their four-legged hunting companions to the kennels and settled down for a period of hard work and patient waiting. The brilliant colors of autumn have faded and the exciting tingle of the fall air has given way to the dulling chill of winter. Most of the Pennsylvania countryside is bleak and drab, or white and blue with snow and ice. The hunting seasons are over and the scarlet-marked coats of the hunters are hung away to wait the next call of the small game in woods and forest, or the tantalizing thrill of the chase for a wide-eyed deer or sleek-coated bear.

The author, left, and A. C. Lloyd, Carnegie Museum Preparator, examine bones and antler fragments of an elk found in a sink hole near New Paris, Bedford County in 1949. The following year the only known complete skeleton of a native Pennsylvania elk was discovered at the bottom of the same natural pitfall.

PGC Photo by Batcheler



There is another type of hunting, however, that intrigues a large group of people. Those who cannot take to the open fields can stay at home and enjoy it; folks who have no urge to kill can indulge in it; and technicians glory in it. I speak of the hunt for information, for forgotten records, for historical data, for a wealth of important knowledge locked in the minds of individuals. To a Museum worker like myself it gives much of the pleasure of hunting, without the necessity of watching the game fall. There is so much to learn in the field of natural history and time is so fleeting that frequently an animal disappears from the local scene—or even from the face of the earth—before the basic facts are known about its existence. When that happens students can only surmise, sift the records, study drawings or pictures of some sort, and try to relate the extinct form with one still extant. By great good fortune we are occasionally able to locate an old skin, a mounted head or even the preserved skeleton of an animal long-vanished from the world. Then, again, if an animal has departed from the countryside only within the past few years—a hundred more or less—it is always possible that there are people still alive who remember when the animal existed and can give us invaluable information which is nowhere else available.

The eastern, or Pennsylvania elk is a good illustration. Of the thousands which once roamed the fields and forests east of the Mississippi not a representative remains. Descriptions in literature and scientific treatises tell us how the writers thought the elk looked, but the best of written descriptions are beggared by the opportunity to view the animal alive or dead. The ability to describe color is an individual thing; ask any two people to describe the same sunset and the result will be amazing. Unless the person is color-blind he will recognize the basic colors—red, yellow and blue—but any combination of those colors is always subject to interpretation. The same thing is true of an over-all description of an animal, accident or object. For example, an alley cat loose in the woods can become a giant bobcat, if the conditions are right, and eye-witness accounts of accidents are notoriously open to suspicion. To the best of my knowledge there is only one skin of an eastern elk in existence, and that is a badly-faded skin which was mounted for many years and stood on exhibition in the Philadelphia Academy of Sciences. Samuel N. Rhoads in his book, "The Mammals of Pennsylvania and New Jersey," 1903, gathered all the information he could obtain from living individuals who had either hunted elk themselves, knew of men who had, or could tell him where racks of antlers or scalps were located. Colonel Henry W. Shoemaker has done an even more thorough job, not only for the elk but for the rest of the mammals that are gone from Pennsylvania for good. Many sportsmen in Pennsylvania must have additional information. Perhaps some know where authentic racks of Pennsylvania elk are hidden in private clubs or even in attics. It is even possible that someone knows where a whole skin lies mouldering away, or better still, hangs in a trophy room. Many of you may have heard your fathers or grandfathers relate tales of hunting elk in Pennsylvania, or you may have read about such hunts in diaries that have come down through families. Any information would be gratefully accepted. We should like to put on record the existence of all trophies and incorporate whatever information we may obtain in a forthcoming volume on the Mammals of Pennsylvania.

The original Pennsylvania deer almost disappeared from the scene about the turn of the 19th century,

and, with startling suddenness, almost all information about them disappeared at the same time. Out of the thousands that were killed, few found their way into Museums or scientific collections, and while accounts of hunts were plentiful, few detailed observations of form, habits and color remained. Any information would be very welcome.

What has happened to the Pennsylvania wolves? Does anyone have a skin, a skeleton, a skull, a photograph,



a record of some kind? Surely somewhere in this great Commonwealth there must be a specimen or two extant, or the memory of man must harbor information that will be lost forever if not recorded in the near future.

Or the Canada Lynx? Where can we view one that was known to have been taken in Pennsylvania? Have any of you hunters seen or taken one? Where can we get comparative material when we try to tell the world what the native mammals of Pennsylvania looked like? The bobcat is becoming increasingly scarce and we know too little about it. Have any of you readers information to give us at the present time, or do you know where we can get skins or skeletal material?

Does anyone have a skin or mounted specimen of the wolverine, the marten, a fisher, the native beaver or the fox squirrel? The mark of their passing is indeed faint, and as time marches on becomes almost invisible.

An what of that marvelous animal, the eastern Bison? Are there any heads or skins extant? Does anyone know of an ancient buffalo robe hidden away in a house? Is there an unpublished diary of some Pennsylvania pioneer which contains an account of these animals? There is little known and much could be told!

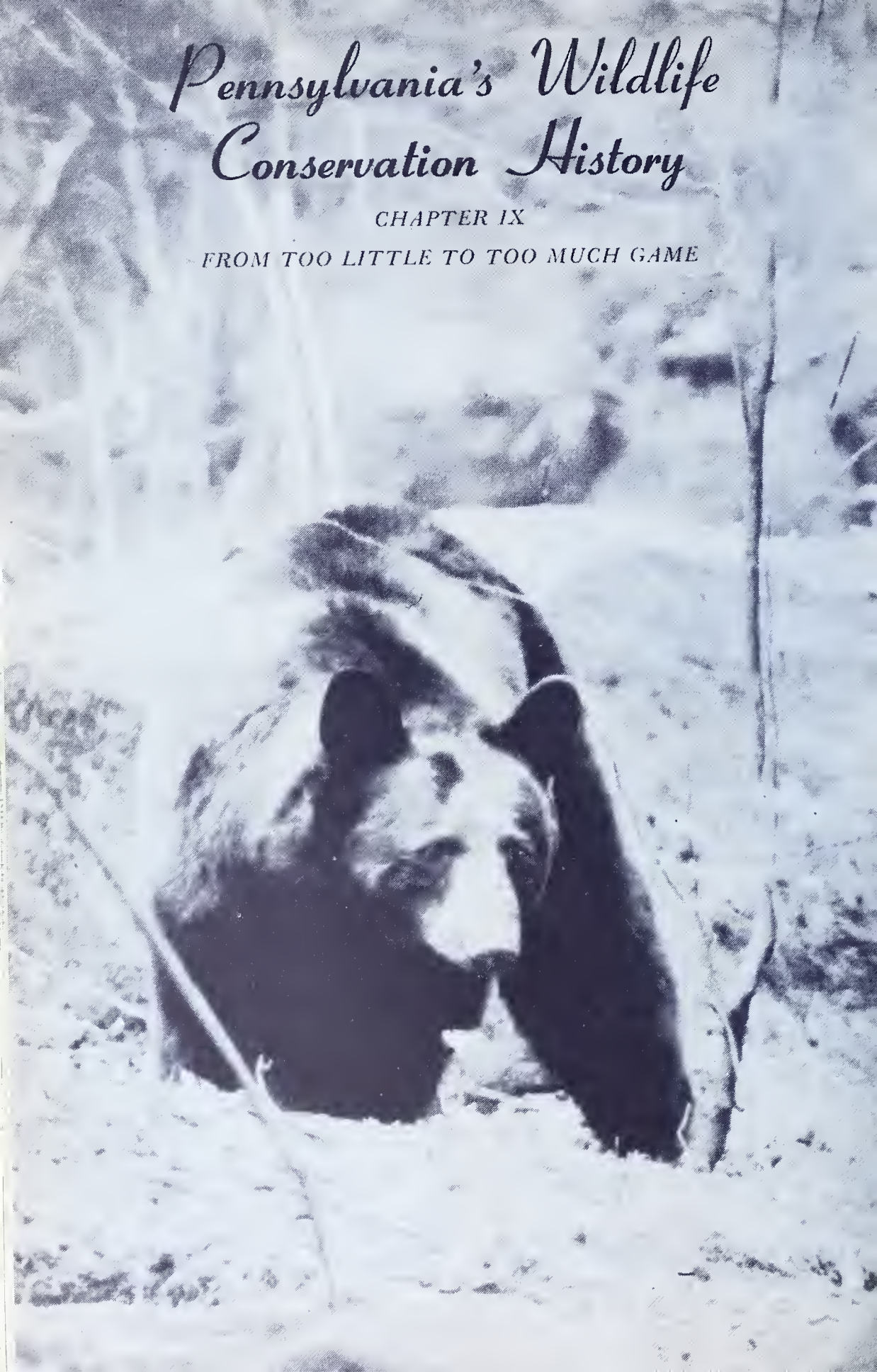
Colonel Shoemaker and Samuel Rhoads have both done marvelous jobs in rounding up information on our extinct mammals, and there is much in literature and Museum collections to be studied. Hunting in the home, however, can still be a profitable and exciting experience. The Section of Mammals of Carnegie Museum would be most appreciative of any information that the readers of the GAME NEWS could supply. An opportunity to examine and perhaps photograph trophies, sets of antlers, skins or robes would suffice. If that were not possible, at least a written record of where the examples are located and something of their origin would be a real help. Copies of diary entries (photographs, photostats, typed, handwritten) might contribute immeasurably. Sometimes things of incalculable scientific value are eyesores to members of a household—such things we would be glad to take off your hands. Only recently we came into possession of a beautiful rack of Pennsylvania elk antlers, from an animal shot in 1833. We cannot pay for specimens or information, but we can give credit where credit is due. We would welcome, too, records of unusual occurrences—the coati-mundi, the spotted skunk, coyotes, etc.—so do not hesitate to get in touch with us. A thorough hunt in your home may reveal a wealth of information that only *you* can enable us to put on record.

. . . *The End*

Pennsylvania's Wildlife Conservation History

CHAPTER IX

FROM TOO LITTLE TO TOO MUCH GAME



IT IS time to stop now and evaluate some of the advances made. The foregoing chapters told chiefly how and why they came about. From the time the first gains were made to the present is a long period and many things happened during it to change the Commission's attitude and also that of the hunters.

For example, the scarcity of game possibly was the greatest single problem when the Game Commission was first formed. That problem has changed since then to one, in a number of instances, scarcely less difficult to solve to everyone's satisfaction —and that problem is a surplus of game.

Reports of damage by deer, beavers and rabbits are commonplace today; and yet, these animals were nearly extinct in many sections before the turn of the century. When too abundant, they can be as much nuisance as other pests and it is amazing to realize that they are considered such quite often at present, in this agricultural-mining-manufacturing State of ours. Pennsylvania hunters probably are the greatest gripers in the country; but hunters outside Pennsylvania can't understand their complaints because elsewhere this State is considered a miracle in game conservation. It has the greatest number of hunters in the Union (Michigan license sales to the contrary, because Michigan issues a special deer license and includes it in its totals) and it has one of the greatest varieties of wildlife.

The Law That Backfired

What happened to the deer population after the passage of the "Buck Law" is especially illuminating, because it sort of backfired on the Commission. This law, plus heavy timbering which created food for the deer herds, the hunters' license law with its increased revenue for the management of all game, the refuge system and the public land purchases all helped the deer recover. They recovered so well, in fact, that they became too numerous around 1920, and the Commission decided it would have to hold a hold a "doe season" to eliminate the surplus.

Whereupon, the Commission encountered an entirely new obstacle. When the "Buck Law" was being pushed through, hunters grumbled and complained about taking away their deer hunting. In the years that followed the 1907 bill, only antlered deer were legal. Then, when the Commission proposed a doe season, the hunters grumbled and complained that the Commission was out to wreck deer hunting. They resented it. Why, every sensible hunter knew that killing does was wrong, they argued. Where were the fawns of the future to come from? The "Buck Law" had become so engrained in their way of thinking that any other method of bettering deer hunting seemed wrong. That attitude still exists today; the "Buck Law," which was a wise provision originally, has become a boomerang because hunters believe in it blindly. The Commission now is in the position of be damned if it does, and be damned if it doesn't have a doe season.

We have seen how the provisions which determined what was a legal, antlered buck changed slightly from time to time. Let us look now at some of the rapidly shifting changes that came over the deer situation soon after the turn of the century.

The first stocking of deer began in 1906 with 50 purchased from Michigan. Between 1906 and 1925, the State stocked 1192, principally to replenish deer where they were scarce, but also in some cases with the idea of instilling fresh blood into a herd. The refuges established from 1905 on, although intended to aid all game, actually were of most benefit to

deer. The use of buckshot for taking deer was banned in 1905 and only a gun propelling a single bullet or ball was legal thereafter.

As a result of the protection given them and the excellent food conditions that followed early lumbering, deer naturally increased rapidly and in a surprisingly little while began to encroach upon agricultural land. As early as 1910, Dr. Kalbfus reported: "I have a number of letters of complaint relative to deer feeding upon grain fields in the early springtime; this again showing the increase of deer."

By 1919, the first bill which would have given the Game Commission authority to declare an open season on female deer during a limited period at the close of the regular season, was proposed and defeated. The open season would have applied only to counties where deer had become nuisances to growing crops and fruit trees.

Farmers Demand Relief

By 1920, farmers were demanding relief, suggesting payment for damages. Was it fair, they asked, for persons interested in creation to impose upon them destructive animals which could easily force a landowner to desert his farm? The deer paid no attention to the arguments, but, like the guinea pigs in Butler's "Pigs is Pigs," they went right on being fruitful and multiplying.

The situation had become acute by 1923. The Commission had started trapping deer for stocking else-where in 1919, but the method was too laborious and expensive, and the trapped animals often were injured. So the Deer Proof Fence Law was passed in 1923, landowners were given the right to kill deer caught destroying property if they dressed the carcass for donation to some institution and reported the kill to the nearest game protector within 24 hours, and the Commission was given the power to declare open season for female deer upon petition of 200 or more residents of any county, township or part thereof for a three-day period following the regular "buck" season.

The Deer-Proof Fence Law, even though amended in 1925 to lighten the cost to the farmer, proved unsatisfactory. This provided for an eight-foot high wire fence to be erected at first with the farmer bearing about half the expense, and then, as amended, with the farmer supplying the posts and labor and the Commission furnishing the wire and staples. It just didn't work on a big scale.

By 1925, the farmer who killed marauding deer was allowed to retain the venison for food in sections where damage was acute, and in 1929 landowners throughout the State were allowed to do the same thing, if damages to property warranted it. This was, at best, only a partial solution.

Killing some of the does seemed the logical solution to the Commission, and the 1923 law empowering it to declare open seasons on petition was considered a forward step. The hunters didn't think so, however. Special licenses, costing $5 each, were to be issued with the board to decide the number. That first 1923 season found the Commission stymied. One hundred licenses were issued in Washington and Quincy townships in Franklin County for the three-day special season. Sportsmen aroused by this "threat" to the deer supply bought up licenses which they didn't intend to use, simply so the doe killers couldn't get them. They posted yellow cardboard signs, reading: "DON'T BE YELLOW AND KILL A DOE" to discourage the remaining license holders. Only eight does and one spike buck were killed that year.

In 1924 there were 424 special licenses issued for parts of Mifflin and Huntingdon Counties with 126 legal antlerless deer and 16 illegal ones



Beavers were accused of damaging trees on private land, burrowing under fields, flooding valuable lands and important roads and otherwise raising cain.

killed. The special license fee was reduced from $5 to $2 in 1925, and that year 5513 out of 10,650 special licenses made available were taken out by hunters and 1030 legal antlerless deer were killed. The number was much the same in 1926—only 1295 being killed. There was no antlerless season in 1927, and then in 1928 came the fireworks.

When sportsmen didn't cooperate in promoting special doe seasons, the Commission tried to decrease the herd by hiring special agents to kill off some of the older does. The hunters objected to this, and, besides, the number that could be killed this way was insufficient to solve a situation that was becoming more serious each year.

The First Statewide Season Fight

So the Commission declared a statewide open season in 1928 on antlerless deer weighing 50 pounds or more with entrails removed. And for the first time, bucks were to be protected. This released a storm of protest. Some hunters feared the deer would be exterminated. Some predicted a huge increase in hunting accidents.

There was so much uproar that a decision from the Attorney General was requested. He decided that the state-wide open season was not legal and that the Commission was empowered only to declare a special season with the special $2 fee in addition to the regular hunting license.

The Commission accordingly declared a special season and limited

the special licenses only to those counties where bucks were taken the previous year, using a ratio of eight special doe licenses to each legal buck killed in a county. This resulted in opening 54 of the 67 counties. Landowners in residence and tenants were given free licenses. No non-resident licenses were issued.

The opposition took definite form as soon as hunters realized the Commission really meant it this time—and injunction proceedings were initiated. The antidoe season hunters were backed in many cases by recreational park and hotel owners who wanted lots of deer roaming around to attract trade to their resorts. This clique (which still exists) succeeded in having some injunctions granted, but aroused the enmity of persons in their sections who wanted an open season and also that of farmers who needed relief from deer damage.

There was the devil to pay on all sides. Hunters fought hunters, hunters fought the Commission, resort owners fought hunters, farmers and hunters fought the resort owners, the Commission fought the injunction seekers. Commonwealth attorneys succeeded in dissolving some of the injunctions before the hunting season ended.

The outcome of all the uproar was that 25,097 legal deer were taken in contrast to 14,374 in 1927 when only bucks were legal, only three deer hunters were killed as against 16 the year before. Farmers in counties where injunctions held good filed immediate petitions for relief against over-abundant deer, and the deer population was scarcely affected.

Opposition to doe seasons develops each time they are proposed, but it had grown weaker each time since experience had shown that plenty of deer remain after each open season. The $2 special permit was revoked in 1931 (although in 1937 the Commission received discretionary power to issue special control permits at $2 —reduced to $1 in 1939) and doe seasons were declared when necessary.

The first year (1931) when both bucks and antlerless deer, with a weight limit of not less than 40 pounds on the latter, were legal, resulted in a kill of 24,796 bucks, 70,255 antlerless deer. The first statewide season (1938) in which antlerless deer only were legal, with bucks protected, produced the staggering total of 171,662 killed. Next year, as if to prove that antlerless deer seasons did not harm the herd, hunters killed 49,106 bucks and (in four counties only) 14,581 antlerless deer.

The climax came the following year. In 1940 all deer except those with visible spike antlers or antlers without points were legal. Hunters scored an all-time high kill of 186,575.

The kettle is still bubbling and every once in awhile boils up with renewed vigor. In 1949 the hunters petitioned for abrogation and were successful in closing seven counties. However, these same hunters went into other counties that remained open and boldly hunted antlerless deer. This brought about great bitterness between counties and didn't set well with the farmers in closed counties who wanted some relief from deer damage. The next year was even worse. Counties who were willing to cooperate with the Commission were forced to abrogate in self defense as counties around them abrogated. This was done in spite of the fact that in many sections the farmers were desperately seeking help and protection against too many deer and had even held mass meetings with game officials and Legislators and others concerned to try to cut down the herd. 1950 saw 14 Counties closed to antlerless deer. After the smoke cleared away leading sportsmen saw that something must be done to recapture ground lost, lessen the bitterness that had taken

hold and try to find some measure to meet the farmers demands, and keep the herd within control. How this effort will be solved will be written in future history of the state.

Some hunters still must learn that too many deer can be as bad as too few, resulting in starvation at times, producing runty deer where food is sufficient to maintain life only at a low level, and destroying food and cover needed by grouse, wild turkeys and snowshoe rabbits. But even the Commission is thankful that the problem is one of surplus and not one of scarcity. In only a few decades, Pennsylvania passed from a period of practically no deer to an era of wrangling over what to do with so confounded many deer.

One by-product of the dispute was that the Commission acquired a lot of unprejudiced scientific opinion to support its arguments. Vernon Bailey, chief field naturalist for what is now the U. S. Fish Service, concurred with the Commission in the necessity for doe seasons after surveys in 1928, 1929 and 1930. In 1929, B. Scott Fritz, Pennsylvania Bureau of Animal Industry veterinarian, found that a proportion of older does were barren. Laurel and rhododendron are not poisonous to deer, Pennsylvania State College learned in 1930 feeding experiments, but deer do not like them as food and when restricted to a diet of these plants alone, young deer show signs of rickets and starvation. The Department of Forests and Waters and the Commission cooperated in a seedling tree experiment in 1929. In a few years, unfenced plots were almost a total loss due to overbrowsing, while adjoining fenced plots were undamaged.

Protecting The Black Bear

Another occasional problem of over-abundance is provided by Pennsylvania's other big game animal, the black bear. Pennsylvania became the first State to protect the black bear when it passed a law in 1905 fixing a season for taking it.

Various other provisions gave them further protection. Steel traps, with their cruelly-toothed jaws, were banned in 1911 and 1915 saw pitfalls and pens outlawed for capturing bears. The use of a single rifle bullet or shotgun slug was required by 1921 and tagging within six hours was provided the same year. In 1925, cub bears were declared illegal, thus protecting the animal in its first year; in 1935 the use of dogs in hunting and chasing bears were prohibited.

As a result, bears prospered and Pennsylvania always had had a fair share of bear hunting. Even in poor years, several hundred are killed, and in one season 929 were taken. Few, if any States, have as many black bears.

Everything reminds black bears of eating. They like beechnuts, they like corn, sheep, berries, honey, beetles and almost anything they can get. This causes trouble where they are too abundant, especially where bee hives, sheep and cornfields are concerned. Ordinarily shy and seldom seen in the woods, they become quite bold and destructive in raids on farms. Therefore, the payment of damage claims was authorized in 1923, with a $3,000 limit for all claims in year. The amount was increased to $5,000 per year in 1945.

The largest bear ever killed in Pennsylvania probably was the one taken December 4, 1923, near Milford in Pike County. Its actual weight was 633 pounds and hog dressed it weighed 538 pounds. Total length was 9 feet. From tip to tip of the ears, it went 19 inches.

Although bear and deer seasons used to run together, at present the short bear season usually (but not always) comes during the week preceding deer season.

Beaver Come Back

Because there was no provision for

fur-bearing animals, the beaver had to be classed as game to receive its first protection in this State in 1903. The law protecting it, though, was only a beautiful gesture because the animal was practically extinct here. By 1923 it was included in the list of fur-bearers and protected as such, but there was more than a gesture in the new law. The beaver had come back.

It all started with a gift in 1917 of a pair of beavers from the State of Wisconsin. The Game Commission took its gift animals and liberated them in Game Refuge Number 17 near Sizerville in Cameron County, on what is known as East Cowley Run. Also, like Ellis Parker Butler's "Pigs is Pigs," they multiplied and multiplied, their offspring spreading over a large area in northern Pennsylvania, some naturally, and some by transplanting.

Elated by what happened to one single pair of beavers, the Commission bought four pairs from Canada in 1919, 24 pairs in 1920, six pairs in 1922 and 12 pairs from New York in 1924. All were released in refuge areas. Then nature took its course and damage complaints began to come in.

A pair of trees, four and five inches in diameter, stood on a bank with their tops above some telephone wires in a Cumberland Valley section. The beavers gnawed through the trees, and when the trees fell they took the wires with them, interrupting Cumberland Valley phone service from Sunday morning to Monday morning. Elsewhere, beavers were accused of damaging commercially valuable trees on private property, burrowing under fields, flooding valuable lands and important roads, taking over water supply reservoirs for their own homes and otherwise raising cain.

Hundreds were live-trapped by the Commission and planted where they couldn't do so much damage, but this was too slow to control the multiplying beavers so the Commission finally decided to permit trappers to harvest the surplus. The first statewide open trapping season ran from March 1, to April 10, 1934, and strict regulations governed it, as they have all ensuing seasons. The beavers had to be trapped and not shot, one person couldn't set more than 10 traps or take more than six beavers and the skins had to be taken before a Game Protector and stamped and sealed before they could be sold. That year, 6455 were taken in 50 of the 67 counties—17 years after the first pair were stocked! Regulations change slightly, but there have been open seasons in nearly all recent years.

In the early years, John Phillips' enemies contemptuously referred to him as the "rabbit man" because he and other sportsmen tried to protect rabbits. Today, they probably provide more sport for more persons than any other game animal or bird, with millions killed annually. In their cycles of abundance, they become nuisances around truck patches, orchards (by girdling trees in deep crusted snows) and around suburban gardens. The State helps clubs conduct rabbit drives and pays so much per rabbit for those box-trapped in areas where they are too abundant. The surplus is planted where they are not so plentiful.

Even ringneck pheasants, first stocked in abundance by the Commission in 1915 have become nuisances at times, principally by pulling up young corn or eating tomatoes and berry crops. Trapping, or persuading the affected farmers to encourage open hunters on their lands, have solved the problem.

This is a most comfortable feeling, to know that there is too much, rather than too little, game.

. . . *To Be Continued*



Added Attraction

CLEARFIELD—The Old Town Sportsmen's Club of Clearfield maintained an animal exhibit at the local County Fair during July and among the exhibits was a medium sized blacksnake. Early on the morning of July 31st, she began laying eggs. A total of 19 eggs were laid, at intervals of 15 to 20 minutes and many of the Fair visitors witnessed this unusual event. The eggs were about two inches long, better than a half inch in diameter, leathery looking and a dull white in color.—Game Protector Ted Carlson, Clearfield.

Good Deed Day For Crows

Bloomsburg—Occasionally crows will turn in a good deed to offset their many bad ones. Recently, while dismantling safety zones on a Farm Game Project, I observed a red-tailed hawk in close pursuit of a cock ringneck pheasant. The bird made a hedge row in safety, the hawk veered off, and immediately two crows attacked him and knocked him to the ground. Apparently not much hurt, the hawk took off for upstairs and rapidly got away from there.—District Game Protector Mark Hagenbuch, Bloomsburg.



Battered Beaver Betrays Bad Hunter

Oil City—In twenty years of service with the Game Commission, I have observed many outstanding things done by hunters. During the same time, I have witnessed some very disgusting acts done by another type of hunter. During the past beaver season, I dropped into a Fur Dealer's place of business for a few minutes and saw what I consider one of the lowest things a hunter could do. Several of the beaver pelts had No. 6 chilled shot in the region of the shoulders and neck. These pellets had been in the pelt for some time and from all indications were the result of a duck hunter blasting away at every beaver that was unfortunate enough to swim by him. These particular beavers had been trapped in some of our best duck hunting areas. The worst part of this action lies in the fact that the beavers have restored acres of water and improved the areas which directly benefit the duck hunters. Some of these men evidently are completely ignorant of both the Game Law, good conservation and sportsmanship, and the value that live beavers really are to them. Several beavers lived until trapping season; nobody knows how many died as the result of this low-down act.—Land Utilization Assistant Earl Smith, Northwest Division Headquarters, Oil City.

Playful Fox

Elkland—Dana Williams, of Elkland, related the following to me recently: He observed a red fox playing on the crust of snow. Being curious to know what made the fox act so playful, he watched it through

binoculars and saw that the fox had a small rodent. It would place one paw on the mouse and hit at it with the other, sending it sliding out across the crust of snow. The fox would then give chase and repeat the performance. Finally tiring of this sport, the fox ate his make-believe "puck" and went off in to the woods. —District Game Protector Gerald Cyphert, Westfield.



As Snug As A Skunk In A Sofa

Hallstead—Early in March I received a call from people living in Hallstead for some assistance in removing several skunks that had moved into a fully furnished home in that village. Upon investigation I learned that the house had been closed for the winter and the skunks had moved in through the furnace pipe. The animals, which had been in the house for some time before being discovered by neighbors, had torn down all the lace curtains from the windows and had chewed up many other articles. Some well meaning individual took it upon himself to shoot one of these stinking tenants as it hid under the ice box in the kitchen. This room will not be suitable for human occupancy for some time. We discovered another skunk upstairs in bed. He had made himself quite comfortable by crawling under the pillow. After looking the situation over, I raised a nearby window. Then, picking up the mattress, we carried it to the open window very carefully, raised one end up, and skidded Mr. Skunk right out the upstairs window without any further trouble.—District Game Protector Howard Hoffman, Susquehanna.

While The Hunter Is Away . . .

Bendersville—Harvey Quigle, a fruit grower of Bendersville, Adams County, is beginning to wonder whether it might not be better to just stay at home and let the game come to him. Last November Mr. Quigle was highly excited about the opportunity to hunt ringneck pheasants in Lancaster County. He was so excited, in fact, that he forgot to take his shotgun with him when he left home and arrived in Lancaster County to discover that his gun was still leaning against a tree in Bendersville. Just recently he had further reason to believe that all things come to him who waits. Mrs. Quigle was working in the kitchen of her home when she heard a terrific crash upstairs. She went to the barn and called her husband to investigate. He found the bedroom window smashed and the venetian blind awry. Searching for the cause of the damage, he discovered a big ringneck pheasant cock under his bed. He caught the bird and brought it downtown as proof of the story. Later he released the bird. It took off with a "whoosh," hit some utility lines, fell to the ground and then headed for other parts on foot at the speed of a greyhound, unhurt, according to witnesses.—Deputy Game Protector Charles W. Bretzman, Bendersville.



Modern Johnnie Appleseed Found In Blair County

Altoona—While the Johnnie Appleseed story is an old one to most of us, a new twist has been added. Dave Schum, of Altoona, doesn't carry a bag nor does he talk to himself. He is a quiet, easy-going fellow who does his bit without any fuss or bother and until recently nobody knew of his tree planting habits but himself. He was "discovered" when he went to pay his dues in the Altoona Wildlife Conservation Club. Several small black objects fell to the floor and the man who was collecting the dues picked them up and asked what they were for. Dave explained that when he ate an apple, he just put the seeds in his wallet if they were plump and clean. Then next time he went fishing, he would plant them. Dave has been planting for a long time for he says there are trees now bearing fruit that came from his plantings. The question in my mind is how many men have missed this opportunity to do good for our wildlife? Wouldn't it be a fine thing if all hunters and fishermen would start planting the same way now.—Ed Dively, Secretary, Altoona Wildlife Conservation Club.

Rabid Foxes Raid Chester County

West Vincent Township—On February 13 I received a report that a gray fox had attacked three dogs, one at a time, in West Vincent Township. At one time during the attack the fox came on a front porch to bite one of the dogs. Since then I have had nine similar cases. In each case the dogs were placed under a 100 day quarantine. We also have two people who were bitten by foxes taking the Pasteur treatment. In one case a lady was bitten in the foot by a red fox and she was only able to escape by getting into her car and closing the door on the fox. In another instance a seven year old boy was severely bitten on the leg and foot while two men tried to drive the animal off with clubs.—District Game Protector Ralph Shank, Uwchland.

Mixed Muskrat and Mink

Wyalusing—While patrolling along



Wyalusing Creek in response to a report of crippled deer in that vicinity, I happened to look upstream about 40 yards and noticed some animal activity on some ice which jutted out from the shoreline. At first I could not make out what the animals were due to their rolling and tossing about. Walking closer I saw it was a fight between a muskrat and a mink. The fight did not last too long as the mink killed the muskrat and then began to drag it along the top of the ice and into the water. The mink then tried to swim across the creek with the muskrat in its mouth but the current and slush were too much for him. He let the muskrat go and began to swim towards me, emerging within five feet of where I stood on the bank. Apparently the mink was not too frightened as he took a dive into the water, swam upstream and emerged about ten feet above me. He finally decided to head down stream again, no doubt running along the bank to intercept the muskrat which was floating below us.—District Game Protector Nobert Molski, Wyalusing.



1951 BEAVER HARVEST BETTERS LAST YEAR'S

In the 1951 beaver season, February 15 to March 1st, 2,878 of the valuable fur-bearers were trapped in Pennsylvania, an increase of 101 over the 1950 figure. About 72% of the entire catch was made in northern tier counties, but trappers were estimated to number 35% less than this year than last.

"Flat tails" were taken this season in 39 counties of the state. Mild weather and open water were great aids to trappers.

Floods washed out many of these wildlife engineers' dams and lodges prior to season. As a result, an unusually large number of beavers was found to be living in bank dens along streams.

The predominating violations involved the setting of traps closer to beaver houses and dams than allowed by law, but the conduct of trappers was reported by game protectors as "generally good."

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MANY HUNTING LICENSES REVOKED

On April 5, the Pennsylvania Game Commission revoked the hunting and trapping privileges of 610 persons convicted of serious game law violations.

In the past year many persons lost their hunting-trapping license by county court action. The latter cases were those in which persons were denied these privileges because they shot at, wounded or killed humans in mistake for game.

FOOD AND COVER CORPSMEN IMPROVE GAME LANDS

In each of the Game Commission's six field divisions, food and cover crops are employed to improve game lands, to establish additional wildlife habitat on them and to maintain the holdings.

The corps' schedules are carefully planned to make certain the completion of seasonal projects and to assure the most efficient use of equipment. In the event severe weather interferes with field or forest assignments these men engage in other projects, such as the building of rabbit traps, wood duck nesting boxes, sign back-boards, etc.

A glance at a typical work schedule for game lands in one division reveals these items: 1—Pruning of fruit trees and removal of suppressing vegetation near them. 2—Clearing old fields for planting. 3—Plowing food strips as weather permits, using best soil conservation practices. 4—Planting hedgerows and gullies. 5—Cutting inferior trees to develop game food and protective cover on edges between forested and open areas. 6—Maintaining roads, bridges, buildings, and boundary lines. 7—Cutting timber in densely wooded areas, providing small openings that will allow increased reproduction of ground cover and grasses.

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Each phase of development has its proper place in planned wildlife management. Only by a visit to these lands can the average individual realize the scope of the food and cover corps activities.

Pennsylvania Welcomes Twenty New Game Protectors At Graduation Ceremonies At Harrisburg

On April 28, in the Forum of the Education Building, Harrisburg, twenty young men who had successfully completed a year's training at the Ross Leffler School of Conservation were graduated. John C. Herman, a member of the Pennsylvania Game Commission presided.

Dr. Richard Gerstell, Director of Civilian Defense, delivered the principal address. Gerstell was once chief of wildlife research for the Commission. State Senator Robert D. Fleming also spoke to the graduates.

The oath of office was administered to the new State Game Protectors by Gene D. Smith, Secretary of the Commonwealth.

The Commission's Executive Director, Thomas D. Frye, officially welcomed the graduates of this sixth training class into the organization and presented the diplomas and commissions. These officers began their duties in their respective districts May 1.

Following are the names of the new Game Protectors shown below, their former residences and their assigned locations:

First Row: Donald L. Croft, Greencastle, Franklin Co., to Montrose, Susquehanna Co.; Elder D. Ramsey, Altoona, Blair Co., to Mauch Chunk, Carbon Co.; Arthur T. Biondi, Force, Elk Co., to Marienville, Forest Co.; Dean M. Crooks, Somerset, Somerset Co., to Altoona, Blair Co.; Harold W. Wiggins, Newtown, Bucks Co., to Cambridge Springs, Crawford Co.; Donald G. Day, Washington, Washington Co., to Warren Center, Bradford Co.

Second Row: Keith C. Hinman, Galeton, Potter Co., to Mehoopany, Wyoming Co.; Joseph M. Maholtz, Penfield, Clearfield Co., to Cambridge Springs, Crawford Co,; Charles F. Keiper, Duryea, Luzerne Co., to Renovo, Clinton Co.; Michael Evancho, Freeland Luzerne Co. to Jersey Shore, Lycoming Co.; William E. Shaver, Freeland, Luzerne Co., to Schwenksville, Montgomery Co.; Louis C. Zlobec, Port Alleghany, McKean Co., to New Milford, Susquehanna Co.; Charles M. Laird, Bellwood, Blair Co., to Bellefonte, Centre Co.

Third Row: Richard R. Roth, Greenville, Mercer Co., to Tunkhannock, Wyoming Co.; Robert H. Myers, Hawthorne, Clairon Co., to Lake Ariel, Wayne Co.; William H. Shaffer, Hyndman, Bedford Co., to Oil City, Venango Co.; Irwin A. Weibel, Jr., Meadville, Crawford Co., to Susquehanna, Susquehanna Co.; Robert H. Spahr, New Brighton, Beaver Co., to R. D. , Philipsburg, Centre Co.; Dale O. Fisher, Williamsport, Lycoming Co., to Warren Center, Bradford Co.





Rabbit Troubles

By John F. Blair

LAST December most Game Protectors over the state had an article in the local paper calling to the attention of the prospective flower and vegetable gardeners that a rabbit trapping program was about to begin. We asked the co-operation of everyone who expected to raise a garden in the spring by letting us know at that time where the presence of rabbits might indicate probable damage to young plants. Each Game Protector has a supply of box traps in which rabbits are easily trapped in the winter without injuring the rabbit. The rabbits so caught are then released in the country on farms that are open to public hunting and contain suitable food and cover. Here the rabbits reproduce to someone's advantage. In the winter time, especially when snow is on the ground and there is little green vegetation for them to eat, these rabbits are not hard to catch. At that time, when rabbits could be caught, the Game Protector seldom has a request to have them removed.

Now comes the second chapter to the rabbit problem in populated areas. Almost every day and sometimes many times a day excited individuals call the Game Protector wanting to know what can be done about the rabbits eating off their flowers and lettuce and beans. They want him to bring a trap to their place and trap them right now. The fact is, they cannot be caught now because there is so much natural food that they are not interested in the bait that is used in a rabbit trap. These same individuals knew that there were rabbits there in the winter, either from past experience or from the presence of tracks in the snow but they were too busy to call up the Game Protector and tell him where they were when they could be caught.

Many gardeners are reasonable and are willing to go along with any suggestions as to how the rabbits can be kept from destroying their plants. Others want permission to kill them right now or sooner.

For those who are willing to live and let live we are glad to recommend several different formulas of rabbit repellent that will help. The best one I know of and can personally recommend is to erect an 18-inch poultry wire fence around the part of the garden in which you are expecting to grow lettuce, beans, carrots, peas and cabbage. The fence can be put up in a very short time and if taken down and stored in a dry place during the winter it will last for several years. One gardener that had plenty of room planted a six foot strip of soy beans all around his garden and said it did the work. One gardener said he accomplished the purpose by the use of salt. No, not on the rabbits tail. He said he placed small blocks of rabbit salt around the garden and the rabbits didn't bother the garden. Would not place all my money on this one but that is the way he told it to me. However there are several formulas of repellents that are recommended by the Pennsylvania Game Commission, based on a series of tests made by the Game Commission and the U. S. Fish and Wildlife Service in

co-operation with the Eastern Regional Service Laboratories, U. S. Department of Agriculture, Philadelphia, Pa. A leaflet giving these formulas is available from your local Game Protector. No cost to you. Just a request on a penny post card.

If you are a conservationist and are willing to live and let live, "Give the rabbit a break," and contact your Game Protector next winter so he can trap them and remove them to the country.

To those of you who are not willing to go along with the Conservation program but are "hell bent" on killing these innocent little bunnies that provide more hunting and recreation than any other species of game in Pennsylvania and supply 2½ million pounds of meat that is very valuable in times like these, I would refer you to Section 724 of the Act of June 1937 PL 1225 (the Game Code). This section is quoted in the leaflet mentioned above and very clearly describes just who is and who is not permitted, under the law, to kill rabbits destroying gardens. There are certain stipulations in the law that must be abided by to keep yourself out of what might develop into an embarrassing situation.

. . . *The End*



By L. J. Kopp

Predator Control Changes

NOT so long ago I listened to the Rod and Gun Club radio program over the Mutual Broadcasting System. Guy Kibby, one of the regular members of the show, made a remark which I think is worth considering. He said that there are two words which should not be used when speaking about the outdoors. These words are: NEVER and ALWAYS. For example, we should not say, "Fish never bite at midnight," or "Fish always bite best before seven."

Let's apply Mr. Kibby's philosophy to predator control. The question of predator control is so typical of the outdoors that in our efforts to answer it, we usually wind up with more questions. Thus, we should never be satisfied with our answers, but should always leave plenty of room for improvements.

Jack Miner, the Canadian naturalist, once said, "When the bugs invade my potato patch, I use paris green and do not wait for God to send other bugs to do the job for me." Unfortunately, paris green does not always accomplish the desired results. Farmers were not satisfied and so science looked for improvements. Today there are literally hundreds of new and different insecticides and repellents on the market, developed for the purpose of better controlling injurious insects.

Generally speaking, predator control is quite similar to insect control. We find that some of the methods which we use to control the predator are helpful, but like paris green, they do not seem to always perform satisfactorily. We are therefore faced with the need for trying out new and different solutions.

In the fox, we have a specific predator which we think should be controlled. Many different methods have been and are being tried. First

the protection was removed from the fox. Then it became apparent that this was not the answer. Next a bounty was offered for the killing of foxes.

This new method—a fox bounty—was put into use about 35 years ago, at least on the grey fox. Yet today we have indications that we have more grey foxes than ever before in our history. At first the bounty system proved to be an answer, but, alas, it proved to be the answer for only a limited time. Unfortunately, we cannot predict the future. We are using a solution with which we are not satisfied, but we are also looking for a better one.

The suggestion has been offered that the bounty should be increased. Perhaps that would be one answer but perhaps it would not be the best one. Let's look at what the farmer did when confronted with a somewhat similar problem.

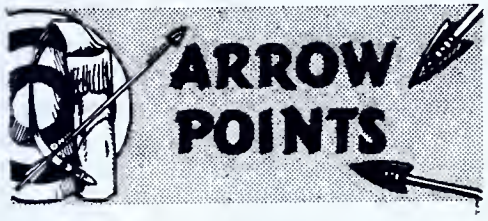
He was using a poison in order to kill the mice and rats on his property. As time went on, he became aware of the fact that the rat poison was not serving its purpose. On the contrary, the rats just kept on coming. What did he do about it? Did he increase the amount of poison which he placed under his buildings? He did not. He did not increase the amount of poison because he knew what was wrong. He figured that if a small amount of poison would not kill the rats, then a larger amount also would not kill them. The farmer could not control the rats on his property because the rats from neighboring farms kept coming to his farm faster than he could kill them.

As a result the farmers got together and decided that this was a problem which concerned them all, not just a few individuals. In order to remedy the situation all the farmers in a large area got together and staged a rat control campaign. This time not only one farmer but all the farmers placed out rat poison during the same period.

Like the individual farmer, we are today trying to control the fox in our own yard. In Pennsylvania we have a bounty on foxes. However, we find that the fox continues to multiply. Like the rats, the foxes are coming into our state from neighboring states and, in turn, they are entering our neighboring states from their neighboring states. Some states do not offer a bounty while others offer bounty in different amounts and during different periods. Under these conditions, we find ineffective control and many cases of attempted fraud.

Would it not be possible to copy the method employed by the farmers and approach our problem in a similar manner? Let's say, for example, that every state east of the Mississippi would offer a like amount of bounty, at the same time, and during the same period. Approach the problem in a uniform manner, in other words. It proved successful for the farmer, and we can be reasonably sure that the old saying, "There's no harm in trying" still is a sound theory. If e are correct in assuming that all foxes are destructive, no matter where they are found, then why should not the solution be the same? And what reason would there be for a Pennsylvania resident to try claiming a bounty in Maryland if Pennsylvania offered the same amount at the same time? And here we are not talking about the amount of bounty but rather the non-uniform manner in which it is offered.

. . . *The End*



Shooting Technique

By Thomas A. Forbes

PART I

Preparation

A BASIC rule, which the beginner should keep before him, at all times, is that archery is not a test of strength but a game of skill and to enjoy shooting a bow, skill must be acquired. As with any other sport, good form is gained through practicing the correct procedure at all times. Scores will not improve just by shooting. Technique is most important and is gained through observing the performance of skilled archers on the shooting line, seeking personal advice and instruction on shooting procedure which archers are glad to give, studying closely such printed information as you are able to obtain, and practice.

It is unfortunate that there are only a few qualified instructors in our schools and Scout troops. Equipment is frequently available and enthusiasm is always evident. However, interest lags when skill is not acquired just by shooting.

In the previous article the beginner was advised on suitable equipment which he should acquire. The next logical step is to assemble the equipment and prepare a range so that we can practice and develop a correct shooting form. A bow used correctly is an accurate weapon and its effectiveness, like a rifle, is limited only by the skill of the individual shooter.

A few words of caution before you begin a practice session. At full draw the bow is under such tension or strain that it can be described as approximately at its breaking point. If overdrawn the least that will happen to a bow is that the fibers will be strained and the bow consequently weakened. Inevitably, overdrawing will result in a broken bow.

Two items of equipment are indispensable to the archer for his protection. An arm guard is worn on the inside of the bow arm and protects the forearm from being injured by the bow string when the bow is held and the string released in the proper manner. Each time an arrow is released the bow string will slap the forearm just above the wrist with painful consequences to the archer unless the arm is protected by a guard. The first three fingers of the drawing hand are protected by a leather shooting tab or a shooting glove. Without this protection blisters will quickly form on the first joints of these fingers. Tincture of Benzoin applied to the finger tips before they become sore will help toughen the skin. A good grade of talcum powder should be carried in the archer's kit. Use it to dust the shooting tab or the fingers of the shooting glove. It helps to provide a smooth release.

An archer dresses for comfort within certain limits. Shoes should be comfortable and sturdy as approximately a mile is walked by the archer in shooting one American Round. The walking is done at a leisurely pace between ends and is interspersed with conversation on the relative merits of bows, arrows, and tackle in general. The beginner will do well to listen closely to this small talk as the opinions expressed differ

widely. Nevertheless archers have done a lot of experimentation and there is a lot of merit in many of their ideas.

When an arrow is released the bow string passes very close to the chest and shoulder of an archer. Sport shirts with open collars and loose half length sleeves are not suitable apparel for the target archer. Ties also interfere with the free movement of the bow string. A vagrant breeze will blow a collar tip, a loose sleeve, or a tie into the line of movement of the bow string and deflect the arrow from the mark. For summer wear, both target and field archers have adopted the Tee shirt with short tight fitting sleeves. In cool weather a long sleeved V neck sweater is worn. Loose fitting upper garments, so necessary to keep one warm in cold weather, become a problem for the bow hunter.

GAME COMMISSION PERSONNEL AND EQUIPMENT OFFERED CIVIL DEFENSE

Noting that preparations are being made in Pennsylvania to develop an effective civil defense program for civilian protection in case of a national emergency, the Pennsylvania Game Commission passed this cooperative resolution at its April meeting:

"RESOLVED: That in the spirit of the law relating to such matters, all personnel and equipment of every kind and description belonging to the Pennsylvania Game Commission be made available to the Director of Civil Defense during any and all emergencies."

The Game Commission has a uniformed, well-trained and fully-equipped staff of field officers, with one or more Game Protectors located in each of the sixty-seven Counties.

As an additional preparedness measure, the Commission approved the enrollment of its field officers in American Red Cross first aid training courses.

FOREST WILDLIFE WINTERED WELL

Mother Nature is usually remembered for her charm and beauty, but she has her ruthless side. Wildlifers know that she is often inexorably cruel to her children during rigorous winter months.

Along Pennsylvania valleys hundreds, sometimes thousands, of dead deer have been found in spring—victims of malnutrition. In recent years, as wild turkeys spread over most of the state's mountainous terrain, there was apprehension lest these magnificent birds, too, might succumb to short rations in severe cold weather.

With no wish to detract from those who did a magnificent job of supplemental feedings, game managers express the belief that forest wildlife, particularly deer and wild turkeys, survived the winter unexpectedly well largely because of a fortunate combination of events in nature.

They point out that the fruit and nut crop last fall was the most bountiful in many years. As a result, forest creatures went into winter in excellent condition, carrying a heavy layer of fat on which to draw in lean periods when food would be scarce or snow covered.

Last winter, the deep snows and ice storms came early, when still vigorous wildlife could best withstand them. Fortunate for wildlife, late winter storms and extreme cold periods that ordinarily kill deer when their vitality is lowest did not materialize this year. Also, during the past winter, occasioned thaws removed the top layer of snow, exposing to turkeys, deer and other forest wildlife the beechnuts, wild apples and grapes that fell exceptionally late in northern counties and rested atop a previous layer of snow.

This spring, even in those northern and western counties hardest hit by snow and ice, it has been generally reported that turkeys came through the winter without a loss, and that most deer, though pitifully thin, survived the critical months.



Outdoor Kids

By Hal H. Harrison

WHEN Billy and Jane learned how they could bring hummingbirds into their garden all summer long, they were delighted.

Hummingbirds are attracted to brightly colored flowers . . . mostly reds and blues. They are also attracted to sweet nectar. The children painted a number of little pill bottles red and filled them with sugar water. Then they hung them on plant stakes among the flowers.

Hummingbirds came to the bottles to investigate this new red "flower." When they discovered that each bottle contained sugar water, they came back every day and many times each day.

East of the Rocky Mountains, there is only one hummingbird . . . the ruby-throated hummingbird. Some folks think there are two, the one with the "ruby" throat and the one with the white throat. The red-throated one is the male; the other is the female.

Ruby-throat is our smallest bird. It is not much over three inches long and weighs no more than a penny. Its long beak is just right for reaching deep into flowers for nectar. Its wings beat so fast that they hum; thus its name.

It is hard to believe that such a tiny creature, with a wingspread of only a little more than four inches, can drive itself forward a mile a minute. It is the only bird that can fly backwards, and one of the few birds that can rise straight up in the air, like a helicopter.

It has been estimated that a rubythroat can beat its wings at the rate of 200 beats per second. Other estimates say from 600 to 1,000 strokes per minute.

One day, Billy and Jane watched a male perform its "pendulum dance." With a perching female in front of him, the little bird flew up and down in great pendulum-like arcs, displaying his brilliant throat and chattering like a little mouse. He would rise high in the air, sweep down within a few inches of his mate and then rise high in the air on the other side.

But the devoted lover during the days of courtship quickly forgets his tiny mate when the two tiny eggs are laid. The female builds the nest herself, and what a work of art it is! It is a one-inch cup made of cottony plant down, tied together with spider webbing and covered with delicate lichens. It is placed on a horizontal limb of a tree where it looks more like a knot than a nest. The two white eggs are the size of navy beans. Care of the young falls to the mother bird.

One evening, just at dusk, Jane called to Billy to come see the hummingbird visiting the flowers in the garden. Billy took one look at the "hummingbird" and informed Jane that she had been fooled by the "hummingbird moth." This is a sphinx moth that is often mistaken for the bird.

Hummingbirds start south early in the fall, even ahead of the frosts. Winter quarters for the rubythroat are in Mexico and Central America. In reaching Yucatan, hummingbirds often make the 500-mile non-stop flight across the Gulf of Mexico.

Many people think hummingbirds live entirely on nectar because they see them hovering around flowers so often. It is true that the bird's tongue serves as a straw for sipping nectar, but in the flowers they also find tiny spiders and aphids and these are swallowed along with the nectar.

PENNSYLVANIA FORESTRY ASSOCIATION TO HOLD 65th ANNIVERSARY MEETING

The Pennsylvania Forestry Association will celebrate 65 years of service by holding an outdoor meeting on June 15 and 16 at the Pennsylvania State Forest School, Mont Alto. The Pennsylvania State Forest School and Department of Forests and Waters will be co-hosts in presenting the program. A cordial invitation is extended to all those interested in the wise use of the forest resources of the Commonwealth.

Highlight of the meeting will be a barbeque supper at Mont Alto State Forest Park during which the Association's 1951 conservation award will be made. Guest speakers include Mr. S. L. Frost, Executive Director of the American Forestry Association; Mr. O. Ben Gipple, Director of the Bureau of Forests; Mr. George H. Wirt, of the State Department of Forests and Waters; and Dr. M. E. Fowler, Director of Forest Pathology, U. S. Plant Industry Station, Beltsville, Md. who will present an illustrated talk on oak wilt.

Requests for accommodations should be sent directly to Mr. William H. Pfeiffer, The Pennsylvania State Forest School, Mont Alto, Pa.



Greensburg Sportsmen's Association

Members of the Greensburg Sportsmen's Association teamed up with members of the Robertshaw Sportsmen's Club this winter in a highly successful crow control program throughout Westmoreland County. The Robertshaw sportsmen are believed to be the first organized group to hunt crows at night in this section of the state and for several years have held weekly hunts for these predators while the crows are flocking together from early January to early April. This year both clubs initiated a new method of tabulating the kill by requesting each hunter to bring back the crow legs. Up to early March over 1200 crows had been accounted for.

A bonus for accurate shooting was given as follows: For each pair of legs returned the hunter was given one shotgun shell; for each four pairs of legs, five shells were given. These shells were purchased by the Robertshaw Sportsmen's Association's Crow Hunting Committee.

Hunts were held in this manner. First, the "spotters" watch the crows going into the roost and make sure they do not change roosts before dark. These men also survey the surrounding area in order to place the hunters in the most likely spots once the hunt begins. The spotters then return to a designated meeting place, select one group of men to flush the crows and other groups to be posted in the most likely wooded areas near the roost. The crows will sometimes fly several miles when the flushing party shoots into the flock, especially on a clear night. A fairly dark night is best for the hunter, and a light rain makes it better yet. In all hunts permission is first secured from the farmers in the area near the roost and many hunters enthusiastically join in on the hunt. The rules of the hunt forbid shooting at anything on the ground and there has not been a single accident as yet. Full credit for these hunts is given to the Robertshaw club, especially "Al" Rosensteel, secretary, Ed McGinnis, Bob Hamill, and several others. These men spent many hours and used many gallons of gasoline acting as spotters in order to insure a successful hunt.

Montgomery Federation

Highlighting April activities of the Montgomery County Federation were shipments of food and cover seedlings from the Federation's nurseries at Graterford to be planted throughout southeastern Pennsylvania by member clubs. In accordance with a plan made last spring by District Forester Wilford P. Moll and the Federation's Forestry Chairman, Ray Landes, the trees were labelled so that all could know what they were planting.

Benshoff Hill Rod and Gun Club

The Benshoff Hill Rod and Gun Club of Johnstown, through secretary Ralph Eichensehr, has announced release of pheasants in Middle Taylor Township, Cambria County on March 31st. All birds were banded with leg bands marked "B.H." and numbered from 1 to 100. Anyone bagging these pheasants next fall or finding them in the fields throughout the year are asked to contact Mr. Eichensehr, R. D. 1, Box 107, Johnstown.

How Far Have We Come

By Ed Shearer

WHILE looking over a private gun collection a short time ago, I spotted a beautiful old 12 bore muzzle loader Greener made in London about 1850. The graceful straight-gripped stock of rare old walnut with its satin-like dull oil finish rivaled a Rembrandt painting. The barrels were of laminated steel, 28 inches long with a browned, rather than a blued, finish. The boring was the straight cylinder type of that period. The planning and craftsmanship that went into the building of that gun was reflected in the superb balance and pointing qualities, equalled only in our best grade guns of today. It was still in very fine shooting condition and I was much interested in several patterns that the owner had shot. The load was 3 drams of black powder and 1 1/8 oz. of No. 6 shot.

The patterns showed that birds of grouse size and up could be killed quite regularly at 40 yards although it was apparent that birds the size of quail or woodcock could slip through the pattern a fair part of the time. My friend had realized this fact also, for when I remarked about it, he dug around and came up with some more patterns. These had been fired with the same load but with No. 8 shot substituted from the No. 6. They were fired at 35 yards which about covers all quail and woodcock shooting anyway. This load at that distance gave patterns equal to the best comparable boring of today.

One thing made me laugh. Fred remarked that on still days in the woodcock coverts he had difficulty with the second shot because of the smoke from the first. I had been through that a long ways down the backtrail. At the age of 12, by those mysterious means of barter and finance known only to small boys, I came into possession of an old ten bore Greener with 32 inch barrels weighing 10 pounds, together with a box of percussion caps.

At this time I was a great admirer of Fred Kimble who was the greatest long range duck shot that ever lived. He was the inventor of the choke system of barrel boring. Now that I possessed a weapon of impressive stature, I set out to concoct a real long range load with the aid of some shooting journals given me by a kindly old sportsman. Finally, with the aid of all the old catalogs I could get my hands on, I settled on 4¼ drams of black powder and 1⅜ oz. of No. 6 shot. This resulted in a fine sheet of flame with a very satisfying roar and when the smoke cleared away, the catalog was well plastered. Also plastered was my shoulder.

So far as ballistics are concerned, there has been but one major improvement in shotguns in the last one hundred years. That is the choke system of boring invented some 85 years ago. Nor is there any marked improvement in sights for the shotgun shooting game. The English shotgun of 150 years ago was very efficient on birds up to 40 yards which is just about the range of our all-purpose boring of today. It is true that our big magnum 10 guage can reach out about 70 yards and smack down individual birds. It is equally true that the punt guns of



the early days would beat that but neither of them are what a hunter would want for field shooting.

Look at the gun specifications of nearly a century ago, as set down in Greener's book of that day. The shotgun should weigh between six and eight pounds. Under six pounds the gun gives too much recoil with a charge heavy enough to kill driven game. Over eight pounds the gun tends to be slow on rapidly moving targets for the average shooter. Gun measurements? Stock length from 13 to 14½ inches. Drop at comb from 1½ to 2½ inches. Drop at the heel of stock 2¼ to 3½ inches. The barrels of the shotgun should not be shorter than 25 inches or longer than 32 inches. Shorter barrels will not point or swing as well and may fail to burn the powder charge. Longer barrels than 32 inches tend to slow the swing on moving game and are not needed to burn the powder in heavy charges.

The charge of shot should weigh from one ounce to 1½ ounce. A smaller charge would not contain enough pellets to give an effective pattern and a larger one would require too great a powder charge to give the shot sufficient velocity. The powder charge should be between three and four drams. It has been proven that less powder produces too much loss in velocity while more powder tends to open the pattern, causing misses.

Now just pick up a modern catalog of guns and ammunition and look over the specifications and ballistic figures. It becomes apparent that they are practically the same today as they were a hundred years ago and more.

The one great improvement was the discovery of choke boring by Fred Kimble in the late sixties. This boring was perfected by W. W. Greener, the English gunmaker, about 1874. Prior to this time all shotguns were true cyclinder bore. A straight cylinder bore scatters its shot over about a 50 inch circle at 40 yards. The patterns are likely to be patchy so that a bird would often get through unscratched.

The choke changed all this by not only giving control of the spread but by providing uniformity of the spread.

The chief obstacle to any big improvement, however, is the spherical shape of the pellet. This is about the poorest form of projectile used in guns. The faster you drive it, the more wind resistance builds up against it so that in a short distance you are right back where you started from. Take the standard loads and the high velocity loads now in use. The high velocity loads start much faster but at 45 yards there is only about 10% difference. The answer is wind resistance.

The real improvement has been made in our guns. American precision production has made it possible to produce low priced guns that will shoot equally as well as a $1000 Greener. We have speed of fire never dreamed of before. Our actions and barrels are far stronger. Shooting has been brought within the means of the average man. This far we have advanced.

There is no comparison between the advance of rifles and that of shotguns. Rifles today will make hits which were undreamed of in the old days. This is because of inherent ballistic factors in rifles that are lacking in shotguns. Boiling it all down, it is true that we shoot 'em faster and we load 'em faster and we don't dodge smoke. But it seems we don't kill 'em any further out and when you think of the game great, great grandpappy had in his day . . . well, I dunno.

. . . *The End*



Women Conservationists

By Grace O. Beach

A VERY dramatic and unusual scene took place at the closing session of the Izaak Walton League convention held in the City of Cincinnati the first week in April. For the first time in the history of the League a woman was publicly honored for her work in conservation.

That woman was Mrs. W. M. Kuhlman of Cincinnati. A tall, stately, attractive woman with iron grey hair and an outstanding personality. She is one of the National Directors of the League and by her own words has dedicated her life to the cause of conservation.

The fact that the honor was to be accorded her had been effectively kept very secret by the officers, Directors and those in the know. Other honors as scheduled on the program had been awarded at a previous session the day before.

A hush fell over the audience, when Dr. Holden, President of the League requested that Mrs. Kuhlman come to the rostrum. An atmosphere of excitement permeated the air as the hundreds of delegates, men and women, not in on the little secret, sensed something unusual was about to happen.

As charming Mrs. Kuhlman walked with regal carriage the length of the room, a play of emotion swept across her face, startled surprise, followed by a look of questioning wonder, then a sort of fright. By the time she had reached the rostrum and faced the President and the audience one could see she was courageously set to take whatever was about to fall her lot.

Dr. Holden began to speak. He thanked her for acting as official hostess at the convention and expressed appreciation for the assistance she had given in solving the many details of the convention. Then he launched into the real purpose for her being there on the platform. He talked about the outstanding job she had been doing and was continuing to do in conservation work, and how much the help of women was needed in accomplishing the many tasks ahead. He charged her to keep up the good work and then presented her with a life membership in the league—a framed citation and a beautiful jeweled pin.

Never in her wildest dreams had she even considered such an honor. Coming as it did with such a complete surprise it was too much for the lady. As the Dr. took her hand in his to congratulate her the regal head bowed down in complete abandon to a heart brimming over with emotion. The kindly Dr. put his arm about her and patted her back soothingly as her head rested momentarily on his shoulder and she fought to regain her composure. Choked with emotion she finally managed to say: "I can't tell you how I feel but I think you know." Yes, we did know, and there was many a feminine eye filled with moisture and many a manly adams apple closed over a tight lump in the throat. It was a fitting climax to an interesting and constructive meeting of conservationists.

Your editor, together with many other well wishers talked with Mrs. Kuhlman at some length after the session closed. In reading the citation given her, we had quite a laugh

over the fact that her name was inscribed in the proper place, but underneath it read "for his outstanding service in conservation." A new one, we were told, would have to be printed and the word "his" changed to "her" to meet a new and unusual occasion.

At this point, let me correct a mistaken idea prevalent with regard to the Izaak Walton League. Many people think it is an organization for sportsmen or of fishermen. That is definitely not the fact. It is a conservation group and they have dedicated themselves to the preservation of our natural resources. Their motto is Defender of Soil, Water, Forests and Wildlife.

Incidentally, the first woman's chapter was established in California, and they have grown in number steadily throughout the country until now there are a great many. To my knowledge there is only one woman's chapter in Pennsylvania, and that one is in Reading. This is most regrettable, however; many chapters in the state welcome women to membership.

In the early days, it was a man's world; few women hunted or fished. Today it is everybody's world. Women are entering into sports. Each year more and more women are joining with their menfolks in hunting and fishing, and the enjoyment of the great outdoors. But, even better than that, they are coming to realize that preserving the soil, water, forests and wildlife is not a problem for sportsmen alone. It is not a task cut out of whole cloth for the hunter or fisherman. It is a means to life, an inheritance to be laid up for our children.

That job belongs to women as well as men, and they have taken up the challenge.

It is not an easy task for women to break into a field hitherto considered a special prerogative to men. There are many sportsmen's clubs who work for conservation, but they turn thumbs down to women membership, or even as auxiliaries to their clubs. They prefer to maintain their masculine freedom.

This is understandable, for in these typically masculine sportsmen's clubs they can be free of the natural restraint that participation by feminine members would create.

The Isaak Walton League has recognized the need for the participation of women in the conservation program and have opened the doors to them, as a conservation group.

If you are interested in conservation and want to participate and do your bit in helping to preserve these precious natural resources that mean life then you should be a member. If you don't have such an organization in your neighborhood start one.

Pennsylvania women are lagging behind their many sister states in lining up in the conservation ranks.

Your editor will be glad to help up to locate your nearest club and supply you with the name of the President of that club, or to assist you in getting a new chapter formed. Just drop me a line; we need your help.

. . . *The End*





In Reply To Richter

Dear Sir:

I am very proud of the hunting and fishing privileges that we of Pennsylvania are able to enjoy. I take this opportunity to commend you of the Commission for your good work.

In your March issue of GAME NEWS under "Slants & Angles" you printed a letter from a Mr. F. K. Richter of Selinsgrove. In it he is speaking for a "small group of sportsmen" and gives their opinion of how the hunting season problem should be handled. Personally, I think his "democratic" solution to the problem "smells." He is far off the trail and not even heading in the right direction.

No, I don't have my own solution, but that's not my job. I feel sure that you, the Commission, will handle the situation in the best possible interest of the majority.

Very Sincerely Yours,
H. L. BUMBARGER
McKeesport

Dear Sir:

If I may be so bold as to answer "Taking Your Choice" as per F. W. Richter, I will wager that either Mr. Richter has more money with which he knows not what to do or else the only time he ever spends in the country is when he's out dumping garbage, broken bottles, or other refuse on someone's property or when in the field will shoot at anything that moves. I have been a resident of the good old Keystone State all my life and have purchased a resident hunting license every year since 1914 and now some crackpot proposes that I may have the privilege of hunting either small or large game, whichever I prefer more, which means that the two or three days that I get to hunt small game will be denied me.

Let the real sportsmen of Pennsylvania who are really interested in the wildlife and sport of this great state come to life and when they see some of these skunks breaking the law in any way take their license number and report them to the nearest game enforcement officer. Let them also have enough courage to press this charge until the violator, he or she, is brought to justice. When we do things like this, we will have come a long way to restoring sportsmanship in the fields, streams, or in the big woods.

Very truly yours,
ROLAND M. FOLIART
Crafton

Elk Deer

Dear Sir:

As a deputy game protector I have taken special note of deer hunting conditions for the last fifteen years in my favorite hunting county—Elk. Also I have received some very excellent information from one of our hunting camp members who has spent over thirty years in Elk county near Medix Run at our hunting camp.

The deer this man used to get were six, eight, and up to twelve point deer with large, heavy antlers and the deer would average one hundred and fifty to one hundred seventy-five pounds hog dressed. The base of the antlers would average 1½ inches to 2 inches in diameter.

Since I have been hunting the same area I have, by actual weighing and measuring, found that the deer in the last 15 years average 90 to 120

pounds and that an eight point is almost a rarity, most of them being spikes or four points with the base of the horn averaging one-half to three-quarters of an inch across. I have only seen four deer killed in the past five years that I would even consider having mounted and then I wouldn't have been very proud of them.

The browse is eaten up as high as the big old does can reach, at least six feet, and there is very little left for the new yearlings to fatten up on. I have seen as high as 18 does in one bunch and dozens of groups of them with anywhere from six to 12 in each group. In one day two years ago I counted 51 deer—all does—and I am pretty positive that I did not count any twice.

We used to have excellent grouse hunting but now if one sees three grouse in an all day trap, you can feel proud. Hundreds of foxes were trapped out of the area but the grouse did not come back as there is very little feed for them. It is a beautiful country but it is going downhill fast. Hunting camps have been sold by the dozens to unsuspecting nimrods who haven't heard how poor that whole area is becoming as far as a hunter's paradise goes.

As you well know, the deer are heading for the farming areas and are a headache to the farmer as well as being very dangerous due to the hunters congregating in more or less congested areas. I strongly feel that until we can replace the chestnut tree and kill off a good many thousand does we are going to have smaller and poorer deer. I feel, and so do hundreds of others, that the sportsmen of Elk county and several other counties caused the innocent slaughter, through starvation, of hundreds and hundreds of young deer. I only wish that many of the sportsmen would take a trip out in the big woods this month and get back off the beaten paths and take note of the extremely emaciated condition of the living deer.

Yours very truly
H. Douglas Brown, Jr.
Oil City

Conservation Starts Early

Dear Sir:

One day my dad, two neighbors and I were hunting with our dogs when we scared up 13 rabbits in an hour and a half on a field near my home. The next day the field was burned. My dad thought that all the game was killed but the next day my friend, Butch Cotter, and I walked through the field and saw ten or eleven rabbits—and on the way back to our bikes I saw still another one. My dad and I feel very happy that all the small game wasn't lost in the fire.

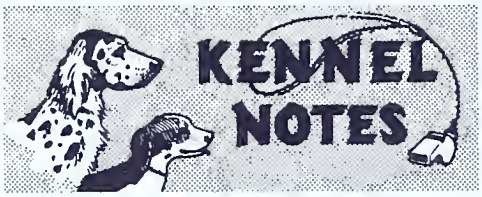
Yours truly,
Wm. A. Smith, Jr. (Age 11)
Butch Cotter (Age 8)
Dilworthtown Road
West Chester, Pa.

Deer Damage Tip

Dear Sir:

While hunting deer this past season, I stayed in Emporium, Cameron County, for two days and heard the following story which might help farmers who have extensive deer damage: The owner of the boarding house told me that he was born and raised on a farm and they were constantly bothered with deer eating their crops. He stated that by planting a patch of buckwheat around their cabbage, tomatoes, etc., the damage to their crops was greatly reduced. I'm not a farmer so I cannot say whether deer prefer cabbage or buckwheat but if there is any truth in this story, I'm sure it will save the farmer ammunition, needless work, and our deer herd as well.

Sincerely,
Joseph Dettery,
Nuremberg, Pa.



By Herbert Kendrick

Summer Care

THE average hunter needs very little encouragement for supplying his dog with affectionate care and attention when autumn turns leaves and ripens harvests. Then as the seasons close and trout streams beckon, the faithful animal is usually returned to the kennel and somewhat neglected during the trying period of off-season months, when a little care and attention would make his life more pleasant and healthy, thus making him a far more valuable asset when a new hunting season appears. A well-bred and efficiently trained gun dog is a valuable animal and should certainly be well cared for every day of his life, and the man who cannot find time for his care should employ someone to do it or send him to a dependable commercial kennel.

With the arrival of summer days comes the usual swarms of insects and parasites to make your dog's life more of a "dog's life." These disease bearing plagues can cause serious illness if they are allowed to go unchecked.

First of all, the dog's house should be cleaned often, white-washed, and supplied with cedar bedding. Cedar sawdust or shavings are a distinct discouragement to insects. The runways or yards around the dog house should be kept clean at all times, thus preventing the breeding of parasites. If a dog is kept in a double-wired pen where stray dogs cannot contact your own, it will keep the insect problem down to a minimum.

Dust your dogs frequently with a good reliable flea powder. This dusting will kill fleas and lice, and a good spray used wisely and often will prevent flies and mosquitoes from irritating the dog. A word of caution here, however, if your dog has puppies. Be very careful to keep the powder and spray from the puppies' noses and the mother's breasts.

The dog *must* have shade at least during the heat of the day. Tree shade is best but if his quarters cannot be located near the trees, then artificial shade in the form of a roof or shelter must be provided. Many professional handlers give their dogs a daily swim in the creek or lake, thus providing cool, clean exercise.

One of the most important needs of the dog is an abundant supply of fresh cool drinking water. A small pipe running from the house spigot down to the dog's water container is a handy way to keep him well supplied with a minimum of effort. If this arrangement is impossible, supply each dog with a container that holds at least a gallon of water, and fill it at least twice each day.

Occasional dustnig of air-slacked lime will keep the pen from becoming smelly and foul, and the water hose should be used to keep down dust during the dry season.

One of the best ways to judge a dog's condition is by the quality of his hair. If he is powdered and brushed, given proper food, sufficient fresh water, and possesses general good health his coat will always be glossy and silky. Bathing is not important.

Exercise should be included in the off season care campaign of your dog. This is a double problem because at times it is too warm to allow the dog to run, and our laws prohibit it. Either let him swim at every opportunity or permit him to run around the yard in the cool of the evening while you watch him.

. . . *The End*

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WILDLIFE CONSERVATION DIVISIONS
(Field)

SOUTHEAST DIVISION—M. D. Stewart, Supervisor, 602 Penn Ave., West Reading. Phone: 4-2661
Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

NORTHEAST DIVISION—C. C. Stainbrook, Supervisor, 987 Wyoming Ave., Forty Fort. Phone: Kingston 7-6193
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

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Through the Seasons With the
WILD TURKEY

Most of these little fellows first see the light of day some time in June. During their first month





or two many fall prey to foxes, weasels, owls, raccoons and other predators. Extremely wet weather is also hard on very young poults.

By the time Autumn arrives the young turkeys are nearly as large as their mothers. An abundance of greens, seeds, insects, berries, acorns & beech nuts has put them in fine condition to face the approaching winter.





December arrives with its snow and cold. Insects are no longer abroad, – seeds, berries and mast are hard to find. The flocks usually follow small streams in their wanderings, where food is more abundant and grit always available.



Spring arrives at last, flocks break up and gobblers strut before their ladies. Bloody battles are waged between rival "toms" for posession of the hens. Within a month or two, however, peace has been restored. The hens are "setting" and patiently awaiting the June debut of their next generation of youngsters.

Ned Smith

PENNSYLVANIA

Game News

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JULY 1951

10 CENTS



THE STORY BEHIND THE COVER

Sixteen years ago the Pennsylvania Game Commission established the Pymatuning Refuge in Crawford County, thus filling a long-felt need for a haven for waterfowl within our state. Known officially as State Game Refuge No. 510, it comprises some 3,700 acres, two-thirds of which are the water and marsh areas known as the "Upper Reservoir."

No effort has been spared in making the refuge attractive to all sorts of wildlife. The water level in the reservoir is carefully regulated to afford ideal growing conditions for natural food and cover vegetation. Plantings of wampee, wild celery, wild rice and other highly-regarded waterfowl foods have been made to supplement the native growth, and more than 75 acres of various grains are sowed annually in fields surrounding the reservoir. Furthermore, fishing, trapping and hunting are strictly forbidden within the confines of the refuge area, in order to minimize disturbance of feeding and nesting wildlife. As a result of this regulation the Pymatuning region enjoys one of the most varied wildlife populations found in any area of similar size in eastern United States.

The Game Commission was quick to realize the tremendous educational possibilities of this project, and accordingly provided facilities for teaching the public some of the interesting facts about Pymatuning's bird and animal life. A one-story museum was erected on Ford Island to house a display of several hundred mounted birds, representing those species found in the region over a period of years, and the services of a naturalist-lecturer were made available to nature-lovers who visited the museum on week ends and holidays.

Typical of these visitors are the Boy Scouts from Troop 421, of the Fort McIntosh District, shown on the cover. Nick Casillo, the Pymatuning's capable lecturer, points out an elusive bird to the boys—just one of his innumerable contributions toward transforming a pleasant outing into an exciting adventure.

In this way the Pymatuning Refuge serves a two-fold purpose. Its bountiful food supply, variety of nesting sites, and ideal cover make it a noteworthy year-round haven for wildlife, while its abundance of bird and animal life, and ample educational facilities combine to make it a veritable school of natural history.

And you may rest assured that when our waterfowl or songbirds or game animals are in need of human aid, the ranks of those rallying behind the Cause of Conservation will be swelled by thousands who have learned to know wildlife on weekend trips to the Pymatuning.

PENNSYLVANIA Game News

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Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

★

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Photo by John A. Krosnoff, Jr.

Our Fifth Freedom

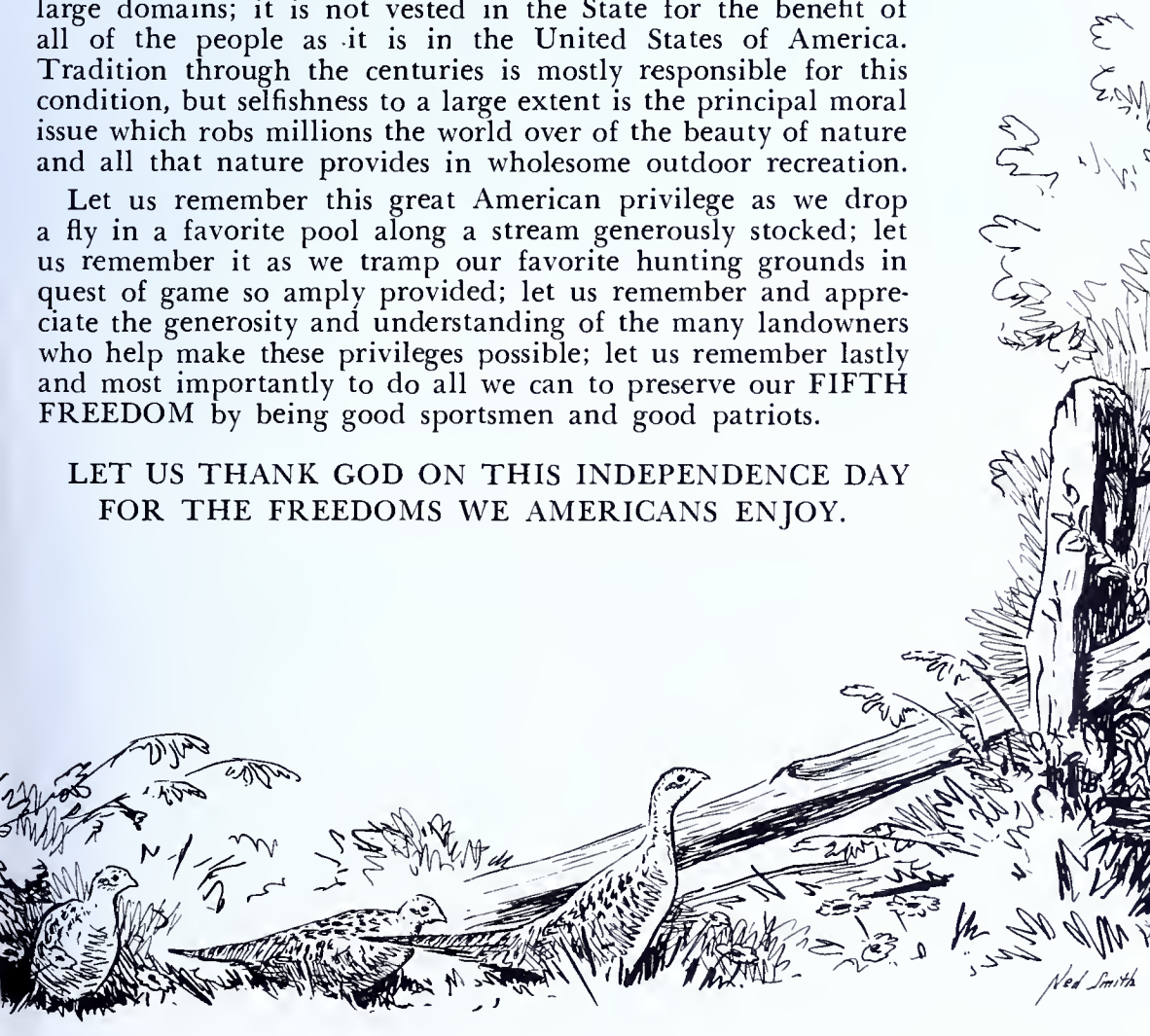
Fourth of July this year should mean more to all of us than ever before. It should remind us vividly of an independence won by blood and suffering and kept only by constant vigil, and of the many liberties which that independence has bequeathed to us. We speak of these liberties as the Four Freedoms—Freedom of Speech; Freedom of the Press; Freedom of Religion; and Freedom of Franchise.

But there is still another Freedom—that of enjoying the great God-given outdoor heritage which is ours—ours with only the necessary minimum of legal restriction to protect and preserve it for future generations. Nowhere in the world do people have the opportunity to seek respite from toil on the farm, in the office, at the factory, in the mine or mill as they do in this great country of ours, along its tumbling brooks or placid lakes, or in its productive fields and woodlands.

In some countries the ownership of fish and wildlife is controlled, monopolized and enjoyed only by wealthy holders of large domains; it is not vested in the State for the benefit of all of the people as it is in the United States of America. Tradition through the centuries is mostly responsible for this condition, but selfishness to a large extent is the principal moral issue which robs millions the world over of the beauty of nature and all that nature provides in wholesome outdoor recreation.

Let us remember this great American privilege as we drop a fly in a favorite pool along a stream generously stocked; let us remember it as we tramp our favorite hunting grounds in quest of game so amply provided; let us remember and appreciate the generosity and understanding of the many landowners who help make these privileges possible; let us remember lastly and most importantly to do all we can to preserve our FIFTH FREEDOM by being good sportsmen and good patriots.

LET US THANK GOD ON THIS INDEPENDENCE DAY FOR THE FREEDOMS WE AMERICANS ENJOY.





First Time to the Target

By Keith C. Schuyler

ON my first and only shot at a deer with a bow and arrow I scored a kill.

Behind that simple statement lies years of longing and the greatest thrill that I think possible for a modern hunter to experience and enjoy. It is the thrill that comes once in twenty-five years. For, roughly, about one in twenty-five bow hunters are successful.

My biggest hunting thrill came on the opening day of last year's antlerless deer season. It was only a little doe, half the size of the twelve-point buck which was the victim of my first gun kill years ago, but it was my greatest hunting achievement.

It all started when archery reached a fever pitch before World War II in our section, and many of us still have the longbows we made then. My seventy-five pound, five and one-half foot longbow, however, rested quietly in the attic for a number of years.

Not that we hadn't used them. We had pin-cushioned the countryside for miles around. Some of us even went hunting for deer. However, the looks we got from our gun-toting fellow nimrods weren't conducive to the pleasure of the hunt. The sport gradually developed into a fad that petered out.

The bows over which we had labored so lovingly went to the attic, and I went back to the rifle and killing deer.

Then last summer some of the old gang began to think seriously about their bows again. The deer were thick in most areas, and the two-day antlerless deer season might give us a chance to prove something both to ourselves and to the scoffers.

Anyone who has ever hunted with a bow knows the necessity for stealth and quiet in the woods. With one million hunters in Pennsylvania, most of whom seek for deer, personal stealth and quiet is often lost to the competition during a regular season. However, with an antlerless deer season, the state's estimated 800,000 deer would offer a much better chance for archers.

I finally brought my bow down from the attic. Fortunately, I had kept it well coated with rod varnish, and the chance of it becoming dried out in the ten years it had waited was lessened. Nevertheless, it was with considerable misgivings that I fitted a new string to the nocks and slowly began to test the wood. Gradually increasing the pull, I finally drew an arrow to its head.

The Osage orange stave held without a splinter! And the rawhide backing clung to the wood. At least the bow was ready.

But was I?

Small-game season had robbed us of our spare time for a month, and with but five days to practice until the season for deer opened, Olie, Carl, my brother Wayne and I began to test what skill we had retained with a bow. It wasn't much. But we really put in some practice on a straw target and were able to group our arrows fairly well after a few hours of trying . . . at thirty yards. Beyond that, it would be pray, brother, pray.

In our favor was the fact that most deer in the Keystone State are shot at about fifty yards or less. Dense woods and new growth, where most of the deer are found, do not offer many long shots. And the large number of hunters makes distant shots extremely risky to human life in most instances.

It should be mentioned here that there are archery reserves in Pennsylvania where an archer can hunt unmolested by the boys with the guns. However, the nearest reserve is some distance from our homes, and none of us are as familiar with the territory as that in which we proposed to do our hunting. Anyway, the county in which the closest reserve is located had been closed to antlerless deer hunting by abrogation on the part of the sportsmen who consider it unmanly to kill lady deer.

Personally, I have no compunctions in assisting with the harvest of animals where it is so obviously needed as in the aforementioned state. However, in this case, the possibility of taking one with a bow made the necessity a pleasure.

Hunting being illegal on Sunday, of course, Olie and I took a part of the Sabbath before the opener to scout the section above Devil's Elbow just north of Huntington Creek. A new four-inch snow presented the woodland in a succession of winter themes that would have made a greeting card company drool with delight. The deer were not moving much, but we found fresh tracks where we expected them to be and chose tentative stands for the next morning.

And, the next morning we were there in time to steal the only good parking place along the dirt road that skirts the tract of timber in which we planned to hunt. Legal shooting time was nine o'clock, and we piled out of the car to string our bows with plenty of time to spare. It was still only eight-thirty when we headed down the log trail that would lead us to a neck of sec-

ond growth which would be a likely spot for the deer to traverse when the shooting started.

To the south, there is a heavily wooded area, and to the north lies the safety of the mountains in Ricketts Glen State Park. Well above the noisy waters of Lick Run, we chose individual stands in the smooth snow that was yet unbroken by footprints other than our own. By the time the first few shots sounded the approaching legal shooting hour, we had picked out positions and were waiting.



Two and one-half hours later by actual time, I personally was still waiting in my original tracks. Meanwhile the woods roared nearby, then in the distance, then again close at hand, as the men with the guns quickened my blood or sent crashing echoes from afar to indicate that there were still deer about. Once I saw one of our party sliding with studied care through the snow-hung evergreens and hardwoods below me. Another coughed cautiously, out of sight, heard but unseen.

The approaching noon sun moved the shadow hands of trees near 11:30, and I could stand it no longer. Despite three layers of heavy cotton sweat-shirts, a woolen scarf about my middle and a heavy red woolen sweater on top that normally provide me with plenty of warmth and freedom of movement, I was cold. The arrows stuck in the snow before me were freezing fast to crusty bits and the shafts in my quiver were rattling in time to my shivers.

Gathering my arrows into my quiver, all but a second one in my right hand to be thrown quickly into the snow where it would be readily available for a second try in the event of a shot, with the one held by slight tension on the string, I headed up the gentle slope.

As soon as I began moving, the chill really began to tell, and I shook like a sick puppy. Olie and Wayne stood grinning down at me from the trail just inside the woods next to open fields as I approached.

"See anything?" asked Olie with an abandon bordering on disgust. I shook my head. "From the sound of the shooting, those deer we knew were in the woods south of here must have run down the hollow instead of out this way."

Wayne studied the sunlit panaroma that stretched in each direction and commented dryly, "Beautiful country; but no deer."

"That's right," grunted Olie. "I moved all through this section and didn't see one fresh track. Anybody see Carl?"

No one had seen him, and by now it was obvious to us that further hunting in this particular spot until later in the afternoon was likely useless. There had been too much shooting on all sides of us. Only a few hundred feet distant was a blood smeared channel in the snow which indicated that one of the closer shots had scored.

We mulled around a few minutes and Wayne and Olie took a couple warm-up shots at a stump. After grabbing a few pictures, I left them hunting for their arrows under the snow. We had agreed to work back toward the car with the intention of then moving on to another area if things didn't look better by the time we met again.

As I moved along slowly in the direction of the road, with frequent stops, the woods were for the most part still. Occasionally there would be a few shots rolling echoes up and down the shallow valleys, but they were coming much more infrequently now.

As I neared the creek, I began to run into hunters at nearly every likely-looking spot. If they saw me, they would watch curiously until I was out of sight, but generally I skirted their stands without being seen.

That was the trouble. Everybody was standing around waiting for the deer to move. And, with the cold and the trees heavily hung with snow, they weren't moving.

Carl and I arrived at the car almost together. He had just been within rifle distance of two does when a hunter downed one of them on the ridge across the road. But Carl too, had failed to see a live deer. An excited youngster and his dad dragged a small doe past as we dug into the car for our lunches. By the time Olie and Wayne arrived, it was 1:30 p. m., and our chances for a deer were getting mighty slim.

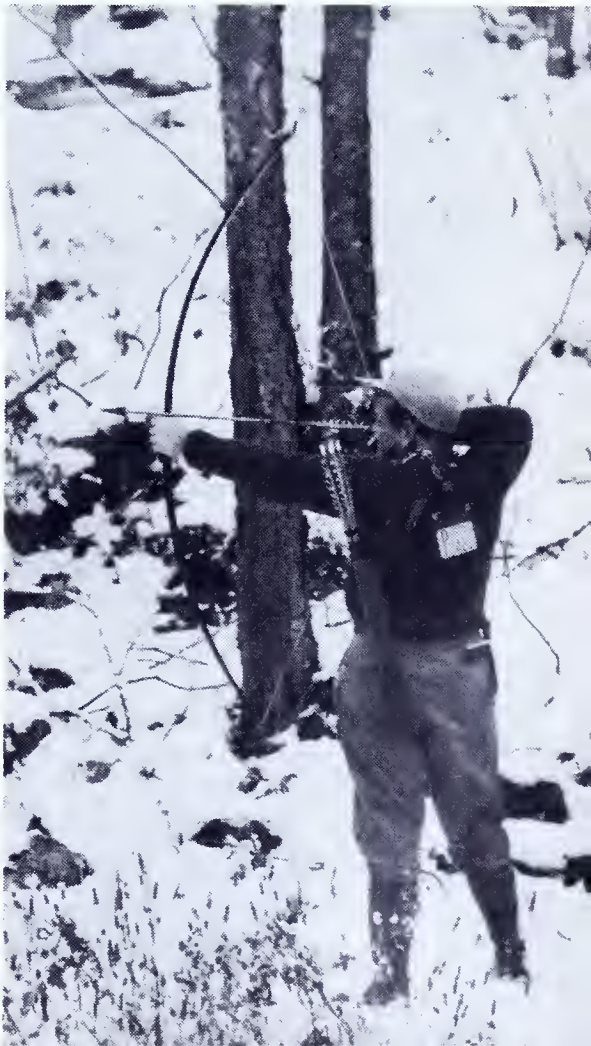
A quick conference ended with the decision to go over to the next county above the Boy Scout camp along Fishing Creek, and I shortly coaxed the car up the snow-packed road to the main highway. As we drove past various lodges and cabins along the foot of North Mountain, where it is normal to see from thirty to fifty deer carcasses hanging from trees or on cars by that time of day, we counted but four dead deer. Obviously, we were not the only ones finding it tough.

As we rode along, we decided that the only way we were going to get any shooting would be to put on our own drives through small patches of woodland. Consequently, we heeded Carl's advice to try a steep wooded hill that had open fields at the top. Any deer in there would be almost certain to show itself if it attempted to leave the area.

So, Carl and Olie dropped off at a bridge over Cole's Creek, a trout-filled brook that skirts the wooded section down to the Boy Scout camp, and I drove the car on ahead.

Stopping at the top of the hill, reached by driving around the end of the wooded section, Wayne and I cut through the brush and took our stands. We couldn't cover the hill, but we picked the most likely looking spots. Deer sign was thick, and fresh.

However, the first movement in the thick evergreens showed Carl struggling along the side of the hill.



After ten years in the attic my home-made bow still had plenty of stuff. It took only one of these arrows to do the job.

"I thought you would take a stand farther down toward the Scout camp," Carl said when we had assembled again. "I think we should drive the rest of this hill."

"The road is just a short distance behind us," I put in a bit dubiously. "There isn't much of this section of the woods left between where the road comes up around the hill and the creek down at the bottom."

"I know," Carl said, "but it's pretty thick, and we might put one out."

He was all for finishing up the drive himself, but I argued him and Olie into going up to the road to take a stand while Wayne and I finished out the sidehill for them. Giving them fifteen minutes to make their stand, Wayne and I cut down over the side.

"One of you should go clear to the bottom," Carl had advised, and I headed that way. Wayne said that he would flank me about half way up and hold back in the event a deer tried to sneak back through.

A short time later I knew what Carl meant when he said it was thick. Trying to get through scrub growth and briars with a longbow on the side of a steep hill is far from the happiest way to spend an afternoon . . . especially when that hill is slippery with wet snow.

At last the brush was too much for me. Anyway, I could see the banked snow along side the road a short distance above me, and the deer tracks, formerly plentiful, had petered out. I headed for the road.

There was no sign of Carl or Olie, and Wayne had not yet appeared. Starting slowly up the old dirt road, with an occasional stop to listen for Wayne, I kept an arrow strung on the bow.

I was just rounding a curve that would have put me in sight of Olie when I heard a movement in the brush. For a second, I thought it was Wayne. Then, even as I realized that it must be a deer, a wild-eyed doe took the fourth jump that placed her at the edge of the road not more than ten yards in front of me.

There was a slight hesitation in her stride, as though she was about to make the customary stop a deer makes before crossing a road, then those big eyes caught the movement as I whipped back my arrow, and she continued her headlong flight across the road.

There was a soft "thump" as the arrow went home . . . half way between the shoulder and flank.

The orange shaft of the 28-inch missile was plainly visible as the doe leaped up a six-foot embankment on the other side of the narrow road and disappeard into the stand of young hardwoods.

Standing there, I was suddenly conscious of an entirely new sensation. The snapping of brush from the fleeing deer had faded into a complete silence. No echo from the shot, no odor of burned powder, no click of metal; just a period of empty nothingness after an exclamation point of action. Only my naked bowstring was proof that my arrow was gone.

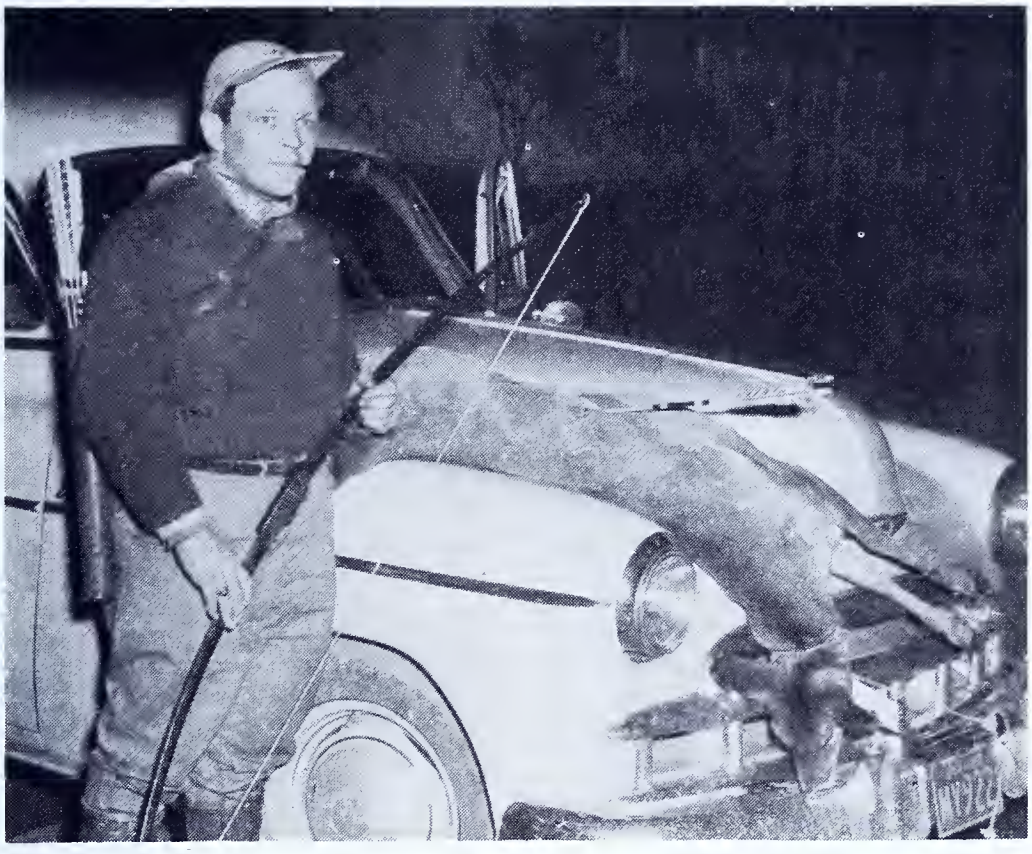
But somewhere in the brush above me a deer was carrying that shaft.

Instinctively I had pulled for the shoulder, but it all happened so fast that I had to snap off the shot without time for careful aim. In fact, I shot so quickly that I hadn't pulled the arrow to more than three-quarters its length.

I decided against taking the trail at once and was marking the spot the deer had crossed the road as Wayne emerged from the brush. He shook his head when I asked him if he had seen a deer.

"Well, I stuck one," I told him. "She must have been standing down in the brush listening for you, and she decided to cross just as I came up the road."

He looked at me doubtfully a moment, then he could see that I was serious. "Well, let's go get her then."



One of the boys stuck a fresh arrow into the carcass for this photo. They wanted to impress the scoffers who thought it couldn't be done.

"No. She's hit too far back, and I don't want to push her. We'll wait a while for her to lie down," I told him. As yet we didn't know what an arrow would do.

After finding Olie up the road and finally convincing him that I had actually wounded a deer, I spent twenty of the longest minutes I have ever put in hunting as we waited for that doe.

The arrow had been shot at 3:25 o'clock, and at 3:45 I finally yielded to Wayne's urging. "It's getting dark and we don't know how far we might have to trail her," he insisted.

It *was* growing dark fast, for an overcast that portended more snow had moved in while we were making the two drives. So, for the first time I sought out the track on the top of the bank. There were flecks of blood along the left side of the very first set of hoof prints!

Wayne flanked me on the right as I settled on the trail that was plainly visible in the snow. Farther up the hill, where the fields started on the right, Olie would be covering our advance.

By the tracks it was evident that the doe was not breaking stride as she crashed through the brush in sixteen-foot leaps that took her over tangles that I was forced to walk around. However, at each set of tracks was blood sign; not heavy, but easy to find.

At about 100 yards I found half the arrow where it had finally snapped in two from contact with the brush. It lay lightly on top of the soft snow, but the hair and blood on the broken end told a promising story. Somehow that broken arrow provided a thrill equal to that when it had first thudded into the speed-

ing deer.

But the biggest thrill was not far away.

The tracks broke into a wide runway, and then they slowed. For a distance they continued to give evidence that the deer was walking slowly and bleeding more freely. Then, about 100 yards from where I had found the broken arrow, I found her lying . . . dead.

Here the story could end, but the cold facts might be of interest to those who hunt with the bow or contemplate such sport.

The deer apparently died on her feet as indicated by the position in which she was lying. She had traveled about four yards farther up the trail and fell as I anticipated she might. Her bed in the trail was a blood-soaked depression in the snow. She had then arisen and retraced her steps for that short distance before falling dead.

After going for the camera with flash attachment in the car, since it was really darkening fast, I opened the deer to trace the course of the arrow. It had penetrated about eight and one-half inches, going through the last rib and the top of the stomach, and the broadhead was in a loop of the large intestine. The body cavity was literally filled with blood!

Although she had bled some at throat when I stuck her as soon as I arrived at the carcass, most of the blood was in the body cavity. The arrow had accomplished its work well. Had I the time to pull the arrow to its head on the shot, it undoubtedly would have gone entirely through the animal. As it happened, the fact that the arrow remained in the deer hastened its death.

To a man, those who saw the carcass said that they doubted if a rifle bullet or shotgun slug would have brought her down as quickly as the arrow. I personally have trailed deer for hours that had been injured much more severely than was indicated by the position of that arrow. But the severed blood vessels in my doe, agitated by the torturing shaft, caused internal hemorrhages that brought death quickly.

It was a small deer, one that would have tipped the scales at one hundred pounds soaking wet. But that one shot answered a lot of questions for us.

According to the records of the Pennsylvania Archery Association, the doe was the thirty-fourth big-game animal shot with the bow and arrow in Pennsylvania since 1937. There have been thirty-three deer and one bear killed in that period.

For those who oppose a statewide special archery season, I can only say that I do not hold with their opinions. Having killed deer with both the gun and the bow, I do not believe that either detracts from the enjoyment of the other.

But the bowman cannot compete with the gunman. I was lucky. Of course we worked hard in good deer country to get our deer, but we had to resort to the old system of driving. And, driving through the woods with a longbow is a tough task.

Had a man with a gun dropped my doe while she was making her death flight, my finest hunting experience would have become my greatest hunting disappointment.

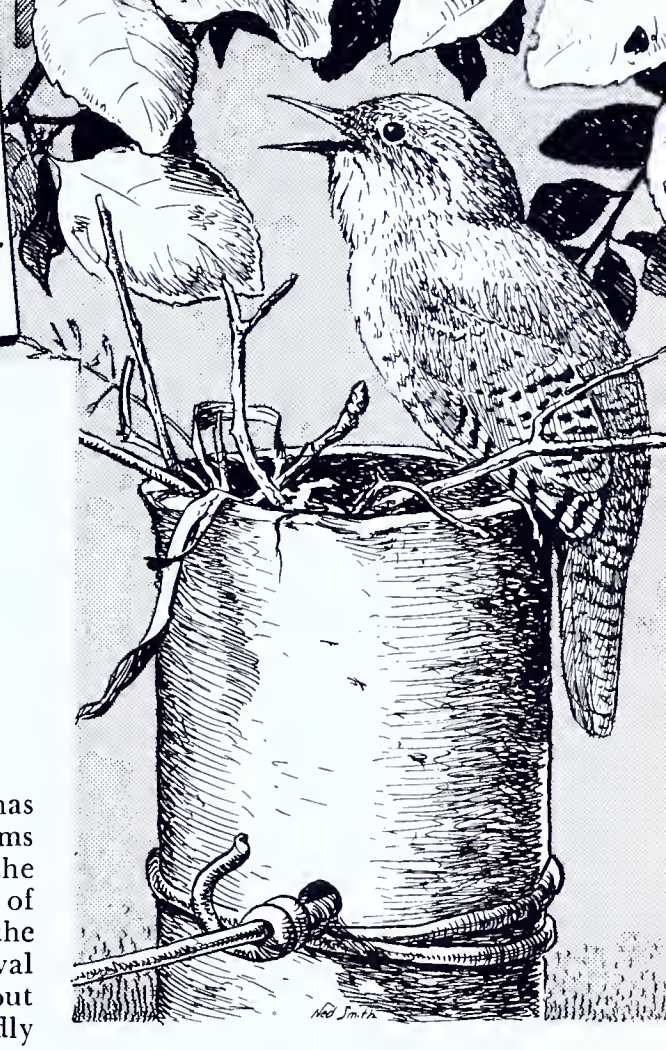
Should we handicap the man seeking more sport, who by the very type of weapon he carries limits his chances to score, who hunts purely for the love of hunting?

I think the answer to that question would be, "No," from anyone who gives the subject serious consideration. Archers could never hold down the deer herds to the desired numbers; their kills would be a small fraction of the total harvest.

But a special archery season would promote a sport, open to anyone, that offers tops in hunting thrills. I know.

. . . *The End*

Outdoor Reveries



By John H. Day

Midsummer Madness

THE gorgeous butterfly-weed has opened its bright orange blossoms in abandoned old fields across the country side. Its vivid splashes of color signal the beginning of the Summer flower show, and the arrival of countless butterflies to float about in high carnival beneath the friendly July sun.

Many other less colorful meadow bloomers had already spread their tables for entertainment of the myriad insect visitors. Prominent among these were the common milkweed and Indian hemp and stray plants of big red clover. But the festivities are not in full swing until the smouldering butterfly-weed suddenly flames into brilliant beauty.

Membership in the milkweed family, which includes some of our most common pasture residents, does not deter this striking individual from winning all polls as the most ornamental wild flower of the midsummer scene. Old time herbalists called it "pleurisy root," and used it in treatment of that condition. The Indians cooked the young green pods into their meat stews. But the butterflies know that this flaming orange blossom is their own special property.

There were spice bush swallowtails and great spangled fritillaries sailing about. There were monarchs and cabbage butterflies. Here and there a wood nymph skulked low through the meadow growth. There were sulphurs and the little blue and a host of other butterflies as yet unknown to me. A horde of bees and flies and other "bugs" was on hand to help pilfer the proffered sweets. They probably pick up a full meal, but the butterflies have all the fun.

I had chanced the vagrant bullets of too-eager groundhog hunters to prowl through that delightful grown-up meadow. Somewhere ahead a grasshopper sparrow was singing his dry, buzzing insect-like trill. I combed the area with the glasses but never did see the bird until he flushed from the weeds as I advanced and dropped back into the grass in

a far corner of the field.

After a wide circle through the old fields I headed for the deep woodland which claims the neighboring hills. A wide stream guards this timberland, and forced me to several tentative approaches before I found a flat crossing, shallow enough for my knee boots.

The forest aisles were pleasantly cool, air-conditioned by a delightful breeze that kept the treetop canopy in continual flutter. Outside the midsummer sun blazed relentlessly from a cloudless sky, but the "deep" woods pathways offered dark and mysterious sanctuary from the scorching rays.

A large grove of gray-barked beech dominated the hillside at the point where I entered the woodland. Farther up a sugar maple "bush" covers a bench several acres in extent. This in turn gives way to a belt of rock oak and tall black oak, with a gum tree or two for variety. Near the top of the rise a stand of tulip poplar has established firm foothold. This woodland has been preserved as part of the watershed for an impounding reservoir and so stands serenely undisturbed while the hand of man exploits the surrounding countryside.

Woods spiders stood guard at every opening in the forest byways, miniature toll gatherers collecting tribute from all who would use these thoroughfares. It is probably my imagination, but I believe every spider gauges the heighth of his web so that it will snare me right across the eyes when I blunder along through the woods. I finally resorted to the woodsman's trick of fanning the air with my walking stick as I advanced, thus clearing all webs from the path ahead.

From a comfortable seat at the base of a large oak, I paused awhile to see what I could see. Two or three bloodthirsty mosquitoes also paused, as well as a dozen or so black midgets who set up an air dance right before my eyes. A tanager flew by, low above the ground, darting past me like a flaming red arrow. A great crested flycatcher talked to himself as he operated through tree tops far overhead. Somewhere across the woods the vireo known as the preacher bird sermonized at great length.

The dank woodsy smell of fungous growth hung over the area like a heavy perfume. The mosquitoes finally got too familiar and I pushed on to the top of the hill, turning here to follow a wide arc through the upper levels of this woodland. There were few signs of squirrel or groundhog, and the only real activity was furnished by the many large butterflies darting about over the colonies of spice bush which have thrived in the shade of the forest giants.

Back in the lane edging the timber I had not gone twenty paces when my nose commanded a quick halt. A most delightful perfume had fanned out from a tiny swale above the road. This ambrosial fragrance hung in such cloying sweetness over the pathway that I retraced and made three short trips through the area just to let my nose wallow in profligate abandon.

Perhaps forty feet away, crowding a moist corner in a forgotten fencerow, stood the clump of common elderberry bushes which had created this nasal paradise. The creamy flat-spread flower clusters hung in misty profusion, bewitching scores of small flies and beetles, who had journeyed "up-scent" to the pollen feast.

My nose acknowledges few peers to the delightful aroma distilled by these elderberry blooms and spread wholehandedly on the humid air. If the perfumers could capture that heavenly odor in tiny vials labeled Midnight Madness they would surely corner the market in such exotic concoctions.

Amid all this midsummer revelry

the grim game of survival continues with unrelenting ferocity. I was moving in for a closer look at a station of the handsome downy false foxglove when I happened by luck to note a small blue wasp make a fast landing on a flat spider web close above the ground. At the same instant the spider jumped free of the web and scurried into hiding under some debris at least two feet distant.

To save herself from lingering death as a comatose victim of the wasp's well-placed paralyzing sting, the spider had taken "one jump and lit running" when the hunting wasp arrived. The wasp immediately ran down into the funnelled lair. Finding no victim there she made a quick search of the whole web, and then the terrain all about the web, before she gave up and pressed her hunting to other fields.

Had the spider been surprised in her lair she would have fallen quick victim to the relentless wasp. One sting and she would have been a helpless, inert carcass, to be packed in among other ill-fated victims in a burrow somewhere close by. When the larder is full the wasp deposits a single egg right in the midst of all this breakfast, insuring plenty of the right vitamins for the baby larva emerging soon after.

July is the high noon of the year in the timberlands. The sedate trees stand around in whispering companies, with an apparent quiet pride in their July perfection. The carpet of shade beneath these big fellows harbors great drifts of jewel weed—the "waterweed" said to be effective against poison ivy. In certain areas the goose grass throws its long fingers across the forest floor.

For the second straight year a pair of house wrens has raised a brood of youngsters in the open top of a pipe holding some grape wires beside the house. The inside diameter of this pipe is two and three-quarter inches, but apparently the wrens find room to spare down in that iron tube. I don't know how they anchor the nest to keep it from sliding to the bottom.

There's only one disadvantage. That pole is just outside our bedroom window, and that wren believes in early morning vocal exercises. When he first tunes up each year we delight in the bubbling music, but now that a second brood is being discussed,. I must say that we could do without all the extra musical flourishes.

Since the nest is about ten inches down inside the pole the youngsters were quite safe from any prowlers, such as Henry, the sparrow hawk, who sat there and drolled for a good ten minutes one day. We wondered how Mrs. Wren would get those kids up out of the pipe, and still don't know, but she turned the trick, for the other evening we watched her herding them back home for the night. They looked like overgrown bumblebees as they struggled up and over the edge.

Late that night I sat at ease in an adirondack chair on a small promonotory overlooking the valley behind the house. A barn owl snored from the sycamores by the creek, and a little screech owl complained from the darkness close by. The stream sang softly to itself as it tumbled through the rips at the wide bend below the garden.

A quarter moon slowly unrolled its warm golden carpet of light across the valley's cold black floor. The barn owl coursed above the neighboring fields, uttering the peculiar rusty-hinge squeaking which accompanies this flight. I mixed a long, cold, countryman's nightcap and moseyed in to bed:

"To a jigger of dew, add six golden moonbeams . . . then lace well with wind . . . stir with a star."

. . . *The End*

Learning By Doing

A LITTLE-KNOWN, but nonetheless very important, part of the Game Commission's Conservation Education Program is an annual wildlife conservation essay, poster and photographic contest sponsored jointly by the Commission and the Forensic and Music League of the University of Pittsburgh in the High Schools of the Commonwealth. Established three years ago, the program is gaining in popularity, which is not wholly influenced by the $250 cash awards which the Commission contributes toward the project each year. To the contrary, school boys and girls are submitting their entries because they are proud of them, and they should be. The joint sponsors are proud of them too—so much so, that the winning contributions in each class for the 1950-51 school year are being reproduced in this issue. The winning photograph appears as this month's frontispiece. The winning essay and poster will follow this little introduction. The practice of publishing these merited awards will be continued every year. It might interest the other contest participants to know that although they may not have won any prizes, their efforts are nonetheless lauded in more ways than one. For example, the winning placards and photos of last year's contest were displayed as a part of the Game Commission's exhibit at the State Farm Show. This year's entries are on display at the Commission's Museum Building in Hershey Park.

This program deserves more publicity than it has received. It is a good program because it develops conservation attitudes through the simple process of *doing*.

It would be amiss here not to mention the splendid efforts of Mr. Lynn W. Thayer, Executive Secretary of the Pennsylvania Forensic and Music League, University of Pittsburgh and his associate Mr. Frederick E. Lange in behalf of this undertaking. They deserve much credit and this is the only way we can bestow it.

CONTEST WINNERS

The following prizes were awarded for each event: First Prize, $50 Savings Bond; Second Prize, $25 Savings Bond; Third Prize, $10 Savings Stamps.

PHOTOGRAPH CONTEST

First Place: John A. Krosnoff, Jr., Bentleyville; Second Place: Cassanda Lee West, Masontown; Third Place: Donald Benner, Middleburg.

POSTER CONTEST

First Place: Robert R. Fellman, Harrisburg; Second Place: Paul Enders, Greensburg; Third Place: Yolanda Merlino, Bessemer.

ESSAY CONTEST

First Place: Logan Doyle, New Castle; Second Place: George F. Lobien, Mauch Chunk; Third Place: Janet Wallace, South Fork.

CONSERVE



PRESERVE



DESERVE



Wildlife Conservation in Pennsylvania

By Logan Doyle

WILDLIFE conservation, as it pertains to our state, is not an independent subject. It is closely related to the conservation of our natural resources. For example, strip-mining depletes habitat and cover, and may, in some cases, cause pollution of pure streams. Forest fires, and improper lumbering practices have destroyed the essential food and cover for many forms of wildlife. Improperly protected fields and hillsides may erode, causing pollution of our streams, loss of fertile topsoil, and total destruction of our food and cover for all forms of wildlife on the eroded area. So, you see, wildlife conservation is definitely related to other phases of conservation.

To be specific in my discussion of wildlife conservation, I shall attempt to show what has happened to our big game animal, the deer, and our small game birds and animals. In addition, I will show what can be done to bring about a sound conservation policy in relation to these animals.

In 1931, the herd estimate for Pennsylvania was about 800,000 deer. By 1935 to 1936 it was possible to count fifty to one hundred dead deer within a mile. All browsing ranges were being stripped. Twenty years ago the carrying capacity of our deer range was 250,000 deer. Today we have about 500,000 deer crowded into a winter range of 4,000,000 acres, which gives only eight acres for one deer for three months. Even with browse supply at the maximum, it could barely supply that number of deer. During the winter, deer will seek sheltered spots even though they may die from lack of sufficient food.

We will never again have game conditions such as existed at the turn of the century. Our forests were cut and, as an aftermath, brush took its place. The mountains then provided the maximum amount of browse. Deer were on the increase, grouse plentiful, and other small game birds and animals firmly established. Today, through mismanagement and legislative resistance these same lands have reverted to the pole stage with a minimum of food available. Field research has shown that if food conditions are ideal, as when a hardwood stand is in the brush stage, eight to ten acres are needed to support one deer; but when the brush becomes larger, twenty-five acres are required to feed one deer. When forests reach the pole stage, an even greater acreage is required to maintain one deer.

This reversion to pole stage has had a terrific impact upon all game. The deer in their search for food have destroyed not only their own browse, but much of the food supply for our grouse, rabbits, squirrels, and wild turkeys. As conclusive proof of the disasterous effects of our over-populated deer range, the Loyalsock Wildlife Experimental Station in Lycoming County performed the following experiment: Fifty deer were placed in a fifty-acre tract of land, formerly an excellent rabbit run. After the first year, there had been little change. After the second year, the natural browse was gone, and a few rabbits disappeared. At the end of the third year, all the rabbits had disappeared, due to destruction of all available food by the deer. Such are the conditions confronting our state bird, the ruffed grouse, and that prize of the hunter, the wild turkey.

Reforestation and attempted development of natural habitat in our mountainous regions is a futile gesture on the part of the Game Commission as long as we have this excessive deer herd. If a program to rehabilitate our deer range is to be successful, the following steps will be necessary:

First, the controversial "Abrogation clause" must be repealed to permit removal of our excessive doe population, whenever and wherever our Game Commission sees fit. Once the herd is reduced, the following measures must be taken: Plantings, re-seedings, and general land development on a wide scale must be undertaken. Bull-dozing, and release cuttings should supplement these plantings and re-seeding, as they will supply additional food and prevent deer from destroying the plantings. At all times during the period that cover and food are being restored, the herd should be kept under control. Without such control, a program to rehabilitate the deer range is a waste of time, effort, and money.

We, in this state, shouldn't concern ourselves with the deer situation alone. On the marginal forest land and on our farms, the future of our game birds and animals, as well as songbirds, is indeed dark and foreboding. In fact, we face a task in these regions as great as that confronted in the so-called deer range.

Where is our most beneficial farm-game bird, the quail? Gone! Gone, as will soon be our rabbits and ringneck pheasants, unless steps are taken to assure the future of their food and cover. Yes, I know! We have plenty of rabbits and pheasants. So, we become complacent in our assumption that they will survive in numbers. Such complacency and false assumption has been a pitfall throughout the history of our wasted natural resources.

Why has there been a steady decline in small game birds and animals, found in the marginal forest and farming areas? The answer is obvious!

The old rail fence, the grown up hedgerow, and the ever-present brush pile have gone the way of the covered bridge, the Model T Ford, and the horse and buggy. They have been lost to us as the aftermath of intensive farming. Intensive farming, reaching its peak in the years of World War II, is directly responsible for our decline in songbirds, pheasants, rabbits, and the all-but-total destruction of quail. Can this situation be corrected? I believe it can if we act now with whole-hearted cooperation between the landowners, sportsmen and the Game Commission.

Let's examine a few of the things that could and should be done. First, we should, as individuals, assume our share of the responsibility for rebuilding the natural environment of our small birds and animals. You and I, as interested sportsmen, can contact the landowners, upon whom we are dependent for our sport. Most landowners will be more than willing to allow interested sportsmen to reclaim fallow and unused lands by plantings of cover and food producing plants, shrubs, trees, and seedlings. Assume this task yourself, or in the company of a group of friends. Second, you and I can establish feeding stations prior to the advent of winter and carry these through to the early spring months, when natural foods have been all but depleted. Third, if you and your friends are interested in the future of our pheasant hunting, you can contact landowners and prevail upon them to locate and save these nests from farming operations. Better yet, you can assume this task yourself. After all, it is far from being wasted effort. The Game Commission will pay one dollar for each pheasant nest protected from farming operations and for each such nest you will find an average of nine pheasants to greet you on the first day of hunting season.

In Pennsylvania the conservation task ahead of us is enormous. To save what remains of our misused and badly depleted natural resources requires the whole-hearted support of every citizen. If not, the conservation highway of tomorrow will be lettered with signs reading—"Too little—too late!"

. . . *The End*

Pennsylvania's Wildlife Conservation History

CHAPTER X

THE COMMISSION GROWS UP



IN the meantime, the Commission itself began to acquire broader powers, even while it was pushing through the needed reforms and changes noted in the several preceding chapters.

No one today would give a plugged nickel for the "powers" granted that first Board of Game Commissioners back in 1896. The Commission was an orphan and nobody loved it much. If it wanted anything, it practically had to beg for it, and then quite often the wish wasn't granted. It was entrusted with enforcing the laws (as best it could without funds), but it wasn't entrusted with creating them. It could do very little without first running to the Legislature to get permission. And the legislators frequently were indifferent or hostile. The Commission wasn't politically strong and could be ignored, or the politicians could grant it some small request much in the spirit of giving a child a piece of candy to hush it up.

All the legislation needed in those early days to remedy the appalling game situation depended upon the favor of legislators who often knew little, and cared less, about conservation. Nevertheless, the Legislature made the laws. It set the game seasons, the bag limits, fixed bounties and otherwise controlled hunting. The Game Commission had to battle with legislative committees and lobbyists. It had to coax, cajole, wheedle, argue and humble itself to get anywhere.

Even when Phillips came to Harrisburg in 1905 to take up his duties as a Commissioner, he found the Commission's president and secretary sitting in a dingy second floor office at a desk which was stacked high with political candidates' cards. He examined some of the cards and turned to Worden and Dr. Kalbfus: "I thought we were supposed to be a non-political body?"

President Worden explained gently to the novice Commissioner that, if they didn't support their "friends" they couldn't get an appropriation. Furthermore, he added, they had many more enemies than friends.

An act of 1913 gave the Commission its first discretionary powers. It wasn't much, of course, but it was something. It was allowed to close certain territories to the killing of deer and elk for a term of years.

The Commission was 17 years old before it received that fragment of permission to think and decide something for itself. By 1937 it could change or close seasons of its own accord, change bag limits, call special seasons, revoke or recall special licenses such as those for taxidermists and fur dealers, decide on which animals bounties shall be paid, and set the amount, and had many other powers.

This increase in its authority came about gradually. For instance, the precedent-setting act of 1913 mentioned above changed in 1915 to authorize the Commission to close sections to hunting elk, deer, squirrels, wild turkeys, ruffed grouse, quail, ringneck pheasants and Hungarian partridges upon petition from at least 200 residents of any county in the State. In 1925, all species of game and fur-bearers were included and the Commission also was allowed to reduce the length of the general open season in any county upon petition. Upon petition, it could also extend the general open season if conditions warranted on squirrels, rabbits and woodcock.

Many of the gains were small, but all tended to vest more authority in the Commission. By 1919, it could declare an open season on bears in any county at any time of the year upon petition from a county containing not less than 200 signatures of persons declaring bears were a nuisance in the section.

The right to declare an open season for antlerless deer on petition

was received in 1923. The same year saw the Commission given power to formulate, adopt and post rules and regulations for the government of lands under its control, and to protect and propagate game on it. After adoption these regulations became the law of the Commonwealth controlling such lands.

The Commission really started to reach maturity in 1925 when it was given wide discretionary powers to decide seasons and bag limits. By 1927 it had control over special licenses such as those issued to taxidermists and fur dealers. It could fix weights for legal-sized antlerless deer in 1931. The power to designate animals on which bounties may be paid, and the amount, was received in 1937 with one restricting clause. The bounties could not be more than $15 for a wildcat, $4 for each fox, $1 for a weasel, and $5 for each predatory bird.

Thus the Commission came to be a truly administrative body as well as a policy-making one. Legislators now listen with respect to its recommendations because it speaks for 800,000 citizens of the State. The thing that the early political leaders feared has come to pass—the hunters are a powerful body. It is a credit to both the Commission and the hunters that they do not use their new found strength to club opponents into submission, but obtain their ends through legitimate channels. The days of wheedling are over. The hunters have a self-supported Commission which can represent them with the confidence born of independence.

There were many changes over the years in the organization of the Commission and its officers. By 1904 there were nine regular game protectors out of the 10 allowed by law in active service, and 46 deputy game protectors authorized under the Act of 1903. These were the men paid one-half the fines recovered and $10 reward in each case where a conviction was secured—the "piece workers." In 1905, special deputy game protectors were authorized and 56 were added to the 55 deputy game protectors in service by that year.

By 1911, the regular game protectors (they do not seem to have been called "game wardens" officially at any time in Pennsylvania) were being paid all the way $50 per month, but an effort to raise this handsome salary to $60 a month that year failed to pass the Legislature. The Legislature, of 1911, however, magnanimously passed a law increasing the force of regular game protectors from 10 to 30, but somehow forgot to appropriate money to pay their salaries.

Things started to look better, though. An appropriation was received in 1913 to permit employment of 13 additional men and to increase the pay from $50 to $75 per month. Then, in 1915, the force of regular protectors was increased to 50.

White-bearded, energetic Dr. Kalbfus directed both the office and field activities until E. W. Kelly was appointed to the new job of field superintendent in 1915 after serving as a game protector. Dr. Kalbfus had supervised and assisted law enforcement officers, but Kelly took over these duties, although his primary job was supervision over the establishment and maintenance of game refuges.

Dr. Kalbfus and "Woody" Kelly both died in the same automobile accident in August, 1919, when their car was crushed by a railroad train at a crossing near Saybrook, Pa. They were on a tour of duty at the time.

After Kelly's death, the office of field superintendent was abolished and additional supervisory officers were appointed instead. These men were known as traveling game protectors and there were 10 at first, each with a given territory. Dr. Kalbfus

was succeeded as Secretary by Seth Gordon, who had worked with him as his assistant.

By 1919, the Commission was empowered to appoint up to 80 game protectors, including men assigned to office duty. Office work was becoming increasingly important as the Commission and its affairs expanded. The traveling game protectors were changed to "division supervisors" by 1923 and the number decreased to nine. Just to note in passing, by that year there were nine division supervisors, 64 district game protectors, 32 refuge keepers, eight assistant game protectors and 400 deputy game protectors. Special deputy game protectors, entitled to a part of penalties collected, were abolished that year because of the bad practices that had sprung up, as they are sure to do under such arrangements. However, deputy game protectors to serve without sharing in the fines were authorized. Somebody remembered how useless constables were as ex officio game protectors ever since they were designated as such in 1899, and an act of March 30, 1925, repealed the 1899 law.

The setup began to look modern by 1924 when the selections of regular salaried field employes by competitive examination was inaugurated. Before that, such employees were appointed, an almost haphazard system and open to some abuse. Age limits and competitive exams raised the standards of the field force. This method of selection continued in use until Ross Leffler's "baby"—the highly-efficient Game Commission Training School came into being.

Since 1920 the Pennsylvania Game Commission had been consistently purchasing wild lands throughout the mountainous and unpopulated areas of the state for creating and maintaining game refuges and public hunting lands. The work of the Commission had greatly increased; new land purchases had to be managed to the best interests of the game





supply; more hunters in the field necessitated a more efficient law enforcement; bounties were paid for the killing of predators; public relations programs were becoming more popular, and speakers, motion pictures and such materials were being requested for all kinds of public programs as people grew more interested in the accomplishments of the Commission. The work of the modern Game Protector developed into a recognized profession. It was not fair to ask these men to become proficient almost overnight in the many lines of endeavor they were now called upon to perform, without instruction.

The need for better equipping our field officers and men became apparent, and in 1930 President Ross L. Leffler conceived the idea of a Training School where they could be given courses similar to those which enterprising businesses had long been using. The Game Commission had just completed the purchase of a tract of state game lands seven miles northwest of Brockway, in Jefferson County, known as the Marshall lands. On the tract Mr. Marshall had a summer home, a large barn, garages and other buildings. Former Commissioner John Phillips suggested that this beautiful site would be an ideal place for the school and his idea was adopted. A training school for Game Protectors became a reality in 1932. Again Pennsylvania had pioneered a movement that later spread to many of the states of the Union.

During the summer of 1932, a class of 139 men attended the six weeks' course and this "in-service" training was repeated in 1933, 1934 and 1935. In 1936, the Commission decided to make the school permanent and used it from then on primarily for the training of new men, which was also a national innovation.

For this training school competent instructors and a comprehensive curriculum are provided. The student officer is required to familiarize himself with the game code and with special related laws and judicial decisions in all their ramifications. A study is also required of all subjects pertaining to game propagation and conservation, of the experiments and investigations that have been made or are under way, and of the procedure in detecting and punishing infractions of the game laws. Mock trials are conducted as practical applications of the knowledge thus gained. Also included in the course is a survey of the state from a geographical and historical standpoint. Attention is given to economical practices for use and enforcement by field officers and other employees, stressing wherein consistent economy may bring about large annual savings of the funds supplied by the license fees. When the course has been completed a searching examination follows before the officer is given his rating.

Since its inception the school has graduated 145 thoroughly-trained men, exceptionally well qualified for their work.

At the request of the members of the Southwest Division of Sportsmen, the Game Commission, at its meeting October 2, 1946, adopted a resolu-

tion to name the training school in President Leffler's honor, since he had conceived the idea and because his keen personal interest in the training program developed the school to the present high standard. The institution was designated THE ROSS L. LEFFLER TRAINING SCHOOL, PENNSYLVANIA GAME COMMISSION. This name was changed by the Commission, April 8, 1948 to THE ROSS LEFFLER SCHOOL OF CONSERVATION.

Though long prohibited by Commission policy, a law of 1937 forbade all political activities on the part of Commission employes. It also provided that no employe could be dismissed without a hearing before a Commission trial board.

County lines were disregarded in some cases in a redistricting of the State in 1941, and were completely ignored in the drastic revision of territories for game protectors made in 1945. The 1945 change created 150 districts, each under a district game protector who had to handle all field problems in his area. Field supervisors were reduced to seven and the new arrangement eliminated the land management game protectors (formerly the game refuge keepers) because such activities became a part of the district game protector's job.

The top rungs of the Commission ladder also were remodeled. In 1923, the title of the administrative officer was changed from secretary to executive secretary, and in 1937 was changed again to executive director, the designation held by Seth Gordon from its inception until 1948, when he retired and was succeeded by Thomas D. Frye.

The executive director is selected by the Commission, holds his job during "the pleasure of the Commission," has charge of all activities under jurisdiction of the Commission including, as chief game protector, the work of all other game protectors. He serves under a $40,000 bond "for the faithful performance of the duties of his office."

The term of office for Commissioners in the original act was three years. However, to have staggered terms the first Commissioners were appointed thus: Two for one year, two for two years and two for three years. The law than provided that "no two of the members of the Board shall be from the same Senatorial district" and required that two meetings be held each year, in January and July. In the first 50 years of existence, only 56 men have served as members of the Commission.

The term was increased to six years in 1923, and the number of Commissioners from six to eight in 1927. The Board of Game Commissioners became the Pennsylvania Game Commission in 1937. At the same time, the term was increased to eight years and the law re-established the rotating, or staggered terms.

Even distribution of the Commissioners was assured by the 1939 law. This required that vacancies be filled by appointment of only one member from each of eight designated geographical districts. The Governor's appointment must have the consent of two-thirds of the Senate. The Commissioners serve without pay, as they have since the beginning. Until 1923, they made an annual report to the Governor; after that, an amendment required a report only every two years.

Thus the vast business of game management in Pennsylvania, which involves nearly two million dollars annually is in the hands of Commissioners who receive no compensation except the satisfaction of furthering conservation. Very often their efforts are little appreciated by hunters, who appreciate even less a modern up-to-date Commission run on modern business methods, free of political domination, and the envy of practically every other state in the nation.

. . . *To Be Continued.*

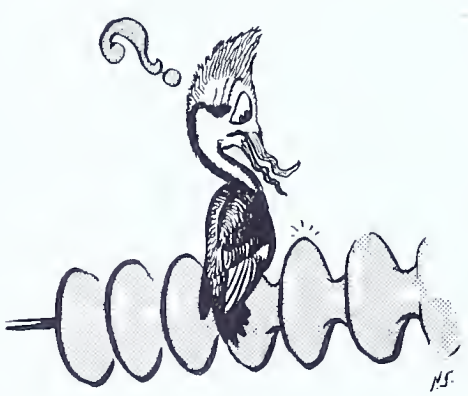


Wise Owls Not So Wise

WARREN—Upon returning to Headquarters one evening I found Deputy Edward Bileawski, of Warren, waiting to probate six great horned owls that he had killed that day. Four of these owls were adults and two were fledglings. The following morning Bileawski, accompanied by Donald Currie, also of Warren, gave it another try and returned later in the day with another adult specimen. Two weeks later Bileawski killed another adult owl. The following day he and Currie again went on the prowl for owls and returned later in the day after each had killed an adult great horned owl. After two weekends of hunting we find that the score stands at ten great horned owls killed—eight adults and two fledglings. It seems that these men must know their owl hunting. District Game Protector David R. Titus, Warren.

Power-line Saboteurs

STROUDSBURG—Pileated woodpeckers are causing considerable damage to line poles on the Pennsylvania's Power and Light Company's 66,000 volt Mount Pocono-Sigfried line in this area. One whole structure was recently replaced and the woodpeckers started on the new structure immediately and have a four inch hole by about six inches in one pole and about 18 inches deep. District Game Protector John H. Doebling, Stroudsburg.





Persistant Hawk

BERWICK—I recently saw a sharp-shinned hawk make a dive into a heavy brush patch and immediately a female ringneck pheasant flew out with the hawk right behind her. Behind the hawk was a male ringneck pheasant who gave up the chase after a short flight. The hen dove into the heavy cover while the hawk paused on a low limb, then dropped to the ground and killed the female pheasant. District Game Protector Lewis H. Estep, Berwick.

Gate Crashing Grouse

SENECA—Clarion State Teachers' College had one unannounced visitor during Pennsylvania Week, at which time a Ruffed Grouse flew through a window of one of the buildings at the College. He probably thought as long as he was the Official State Bird, he might as well get on the program by crashing the gate.—Land Utilization Asst., Earl E. Smith, Seneca.

Fancy Deer

BIRDSBORO—Two different herds of deer, totaling 16, were seen in the French Creek State Park Area during the month. Two partially white deer have been seen in the herd. One is marked like a Shetland pony and the other animal is almost entirely white. —District Game Protector Joe A. Leiendecker, Reading.



Fox in the Treetop

HUNTINGDON—Late in the month of April a Huntingdon County farmer was cutting paper wood some distance from the house on the lower slope of the Tussey Mountain. As he was working there he happened to notice what seemed to be an old crow's nest about twenty to thirty feet above the ground in a white pine tree. Then he noticed there was something in the nest with grayish hair, but it was not moving. The farmer returned to his home where he met some other men, and he asked them to go with him to further investigate the thing in the nest. After much pondering they decided it was a fox. So the farmer shot and it jumped out of the nest and fell to the ground, where they finished off the grey fox. The main thing about this story is that the tree grows straight up and, although it does have limbs on it, it is still a wonder to me why that fox ever climbed up there to take his day-time nap.—District Game Protector Dean M. Lesnett, Huntingdon.

Like Noah's Ark

WILKINSBURG—Rabbit trapping does not only include catching rabbits; many game animals and predators are caught. Following is a list of animals caught by one trapper, Ellsworth A. Smith, Wilkinsburg: 472 rabbits, 137 grey squirrels, 93 rats, 4 opposums, 3 raccoons, 1 muskrat, and 1 groundhog. The 93 rats were all destroyed which will probably eliminate more damage than all the rabbits that were caught. Thought of rabbit trapping is only given to eliminating rabbit damage and helping the sportsmen in their future hunting by most people, but catching rats, etc., is a great help to everyone, not only gardeners and sportsmen. District Game Protector R. V. Rea, Finleyville.

Rough on Foxes

PHOENIXVILLE—Three more positive cases of rabies developed during the month of April. This makes five positive out of six tested for the disease. A total of 17 cases have been called to my attention so far. Last Tuesday evening Mr. Thomas Liverside, who lives near Phoenixville, was attacked by a large grey fox which grabbed him by the knee of his trouser leg. Unable to shake the animal loose, he grabbed the fox with both hands while his wife shot the fox through the head with a revolver.



Killer Cat

HAMMERSLEY—While on foot patrol in the vicinity of Hammersley during the past month I found a deer that had been killed by a wildcat. It is not unusual for a cat to kill a small deer but this was a large doe that had evidently run for quite a distance after the cat had attached itself to the deer. By the signs in the leaves the deer had fallen several times and gotten up and run again before the cat was finally able to kill



it. There seems to be more than just a stray cat in this place as I have found small deer killed in this vicinity before. District Game Protector William D. Neely, Austin.

Paging Goldilocks

MOSCOW—On route 507 between Greentown and Lake Wallenpaupack a large mother bear and her two beady-eyed cubs recently put on a traffic-stopping show. Car after car of "Sunday drivers" came to a standstill to watch the old bear stand on her hind feet and growl at the more adventuresome spectators. Meanwhile, the cubs hung tightly to blossom covered branches high in a nearby apple tree and squealed pitifully. One exceptionally brave photographer, seeking a closeup, nearly lost his camera and possibly an arm as the protector of her young made a vicious swipe at him. Some of the old-time hunters in the crowd remarked that were it not for the huge number of spectators the bear would have made short work of anyone getting too close.

Late that night mamma bear was seen to climb the tree, and in a moment came down head first with one of her babies held firmly between her strong jaws. She carried it about 100 feet away and returned for the other. The latter came bouncing down the tree like a rubber ball just in time to get a few whacks from his perturbed mamma.

The show over, the late patrons remarked, "The best show we've ever seen and worth a hundred dollars." *The Shopper's Guide,* Moscow, Pa.

Rabbit Preferred

SLIPPERY ROCK—This spring Mr. Croyer, Slippery Rock, R. D. 4, and a companion found a fox den and decided to dig out and capture the foxes. After some hard work they captured five red fox pups and the mother fox. They also discovered in the den two full grown dead rabbits and the remains of several other rabbits. This is evidence that the red fox also preys heavily on our small game to feed her young. District Game Protector Woodrow E. Portzline, Slippery Rock.

Crop Failure

FORT LOUDEN—In the month of March I had reported to me, and personally observed, quite a number of nests containing young rabbits. Unfortunately, most of the nests were destroyed. Apparently, the No. 1 offender in these cases was the crow. Heavy rains the last two days of March about finished our early crop of rabbits. We can be mighty thankful that mamma cottontail bears more than one litter each year.—District Game Protector Edward W. Campbell, Fort Louden.

Blair County

Where Rails Conquered The Mountains

Eleventh in a Series

Note: This center sheet can be removed, if desired, without damaging the magazine, by loosening the two center staples.

Blair County was settled by Scotch-Irish and Germans long before the Revolutionary War and was named in honor of John Blair, a native resident. It was organized in 1846.

Land Area

The county contains 339,264 acres, of which 198,783 acres are forested. Publicly owned land comprises 34,301 acres and includes 18,565 acres of State Game Lands.

Topography

Situated on the eastern slope of the Alleghenies, Blair County is famous for its magnificent mountain scenery. Principal streams draining the area are the Frankstown Branch of the Juniata River, the Little Juniata, Bald Eagle Creek, Clover Creek and Piney Creek.

Transportation

Railroad transportation is furnished principally by the Pennsylvania Railroad main line, on which is located the famous Horseshoe Curve. The William Penn Highway (U. S. 22), U. S. Route 220 and other important highways traverse the county, which has 424 miles of improved State highways.

District Game Protectors

D. M. Crooks, 517 Park Ave., Tyrone, Pa., has jurisdiction over Snyder, Anti, Tyrone, Logan, Allegheny and Catharine townships.

Roland F. Turley, 418 Cherry St., Roaring Spring has jurisdiction over Frankstown, Juniata, Blair, Freedom, Huston, Greenfield, Taylor, North Woodbury and Woodbury townships.

Fish Warden

Claude B. Baughman, 603 E. Main St., Roaring Springs.

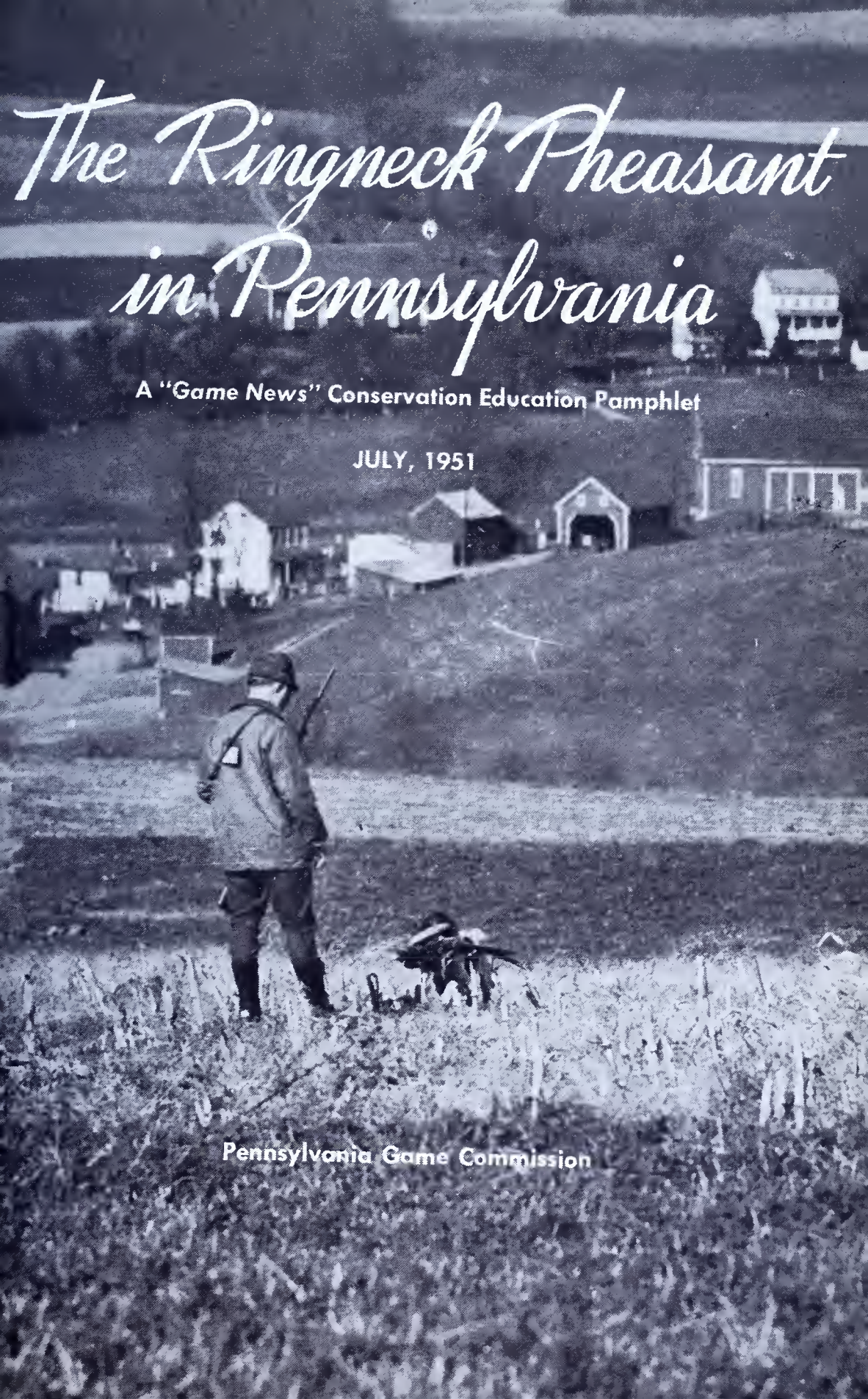
Agriculture

Its mountainous nature prevents much agriculture, but Blair County is developing a vegetable growing-canning program that shows great promise. Other agricultural products include dairy products, apples, peaches, grain and poultry.

Industry

Due to its strategic location on the main line of the Pennsylvania Railroad, Altoona has become famous for its railroad shops—the largest in the world—which build locomotives and other equipment, as well as handle a huge volume of repair work. Blair County's other important industries include metals and metal products, paper and printing and textile manufacture. Chief products include printing paper, silk and rayon goods, knit goods, bakery products, brick, brass, bronze and copper products.


SAVE GAME
PREVENT FOREST FIRES
CLEARFIELD COUNTY
CAMBRIA COUNTY
BEDFORD COUNTY
Tipton
Bellwood
Fastaria
Pinecroft
Homer
E. Altoona
Greenwood
Newburg
Freeman
Altoona
Kettle
Lakemont
Geeseytown
Frankstown
Hollidaysburg
Duncansville
Muleshoe Station
Blairs
Conan
Sugar Run
Burgoon Run
Horse Shoe Curve
Gap Run
Newry
Puzzletown
Vicksburg
McKee
E. Freedom
Blue Knob
Roaring Spring
East Sharpsburg
Mortimsburg
Fredericksburg
Claysburg
Ore Hill
Curryville
Sproul
Klahr
Henrietto
S.G.L. NO.198
S.G.L. NO.147
S.G.L. NO.26
PENNA. R.R.
Juniata R.
Frankstown Br.
South Poplar Run
Homer Run
Spring Gap Run
Piney Run
07023
07024
07025
07026
07010
07012
07035
07043
07038
07037
07002
07042
07005
T-382
T-331
825
865
220
36
764
22
164
867
866



The Ringneck Pheasant in Pennsylvania

A "Game News" Conservation Education Pamphlet

JULY, 1951

Pennsylvania Game Commission

The Ringneck Pheasant In Pennsylvania

OF the exotic game birds introduced into the United States, the ringneck pheasant is better known than any other because of its wide distribution and the ease with which it can be identified. The ringneck is not a full blooded pheasant. It is the result of cross-breeding four true pheasants—the Common, Japanese, Mongolian and Chinese.

The birds found in our coverts today have come from both England and Asia. Most of them are "mongrels" though a few are pure bred individuals. Included among the latter are, in addition to the species above mentioned, a few English Blacknecks and Melanistic Mutants. These two, like the Japanese Versi-color, lack the characteristic white neck-ring of the more common forms.

The ringneck has had a remarkable history in Pennsylvania. Old records show that it was classed as a game bird and hunted under regular open seasons since 1902. It was not very common in those early days. Comparatively few were released prior to 1915, and then only by sportsmen and individuals who were interested in them chiefly for their own amusement.

The long open seasons and large bag limits between 1902 and 1915, and the very limited stocking, prevented any substantial increase of pheasants during those years. Seasons at that time ranged anywhere from a month and a half to two months, and bag limits from fifty a season to unlimited. It is not surprising that the birds failed to gain a foothold under such conditions.

The first effort to permanently establish the ringneck in Pennsylvania was made by the Game Commission in 1915, when 2,090 birds were purchased and released in several counties in the southeastern part of the State where ideal pheasant range exists. At the same time more sensible seasons and bag limits were established. During the fall of that same year an estimated 896 pheasants were killed by the hunters. Hunting licenses issued during that season numbered 262,355. Even this early, hunters reported seeing pheasants in counties adjoining those in which the original stock was liberated, proving that the birds had already begun to spread.

From 1915 to the present time, restocking of pheasants purchased in the open market has been done annually. Beginning in 1916, however, the Game Commission, by distributing several thousand pheasant eggs each year to game protectors, refuge keepers (as they were classified back in the early days), and interested sportsmen and farmers, created another source of supply from which were released thousands of birds.

In order to note the amazing increase of pheasants during the first five years, one needs only to glance over the records of the Game Commission ending the year 1920. During that year 4,062 birds were released (twice as many as in 1915), 432,240 licenses were issued (133,268 more than in 1915), and 23,000 birds were reported killed, an increase of 22,204 over 1915. A record of the seasons and bag limits since 1915 follows:

SEASONS AND BAG LIMITS

1915	4 per day, 10 per week, 20 per season	October 15-November 30
1917	4 per day, 10 per season	October 20-November 30
1921	3 per day, 6 per season	November 1-November 30
1923	2 per day, 6 per season (Male only)*	November 1-November 30
1927	2 per day, 6 per season (Male only)	November 1-November 15
1928	2 per day, 6 per season (Male only) Thursday, Friday, Saturday of each week	October 15-November 30
1929	2 per day, 6 per season (Male only)	November 1-November 15
1931	2 per day, 6 per season (Male only)	November 1-November 30
1932	2 per day, 6 per season (Tuesday & Wednesday of first week; Monday, Tuesday, Wednesday & Friday of second week; Thursday, Friday & Saturday of third and fourth week)	November 1-November 26
1933	2 per day, 6 per season	November 1, 2, 6, 7, 10, 11, 16, 17, 18, 20, 21, 22, 27, 28, 29, 30
1934	2 per day, 6 per season	November 1, 2, 3, 5, 6, 7, 10, 12, 14, 17, 19, 21, 24, 26, 28, 29, 30
1935	2 per day, 10 per season	November 1-November 30
1936	2 per day, 8 per season	November 6-November 26
1937	2 per day, 8 per season	November 1-November 25
1938	2 per day, 10 per season	October 31-November 26
1939	2 per day, 12 per season	November 1-November 30
1941	2 per day, 12 per season	November 1-November 29
1942	2 per day, 12 per season	October 31-November 28
1943	2 per day, 12 per season	October 30-November 27
1944	2 per day, 12 per season	November 1-November 30
1945	2 per day, 8 per season	November 1-November 30
1948	2 per day, 8 per season	November 1-November 27
1949	2 per day, 8 per season	November 1-November 26
1950	2 per day, 8 per season	November 1-November 25

* From 1923 to present only male ringnecks have been legal game.

The records show that these birds multiplied rapidly despite an annual increase of hunters, the depletion of their ranks by predatory birds and animals, and the reaper, mower and hay rake which destroyed many nests. To help offset mower destruction the Commission encouraged farmers to use a flushing bar, attached to either horse- or tractor-drawn mower. This bar will prove a very effective device if placed well in front of the knives so that chains or ropes suspended from it flush the birds well ahead of the blades. Once a bird flushes the most sensible thing to do is mow around the nest, leaving enough cover stand to give it ample protection.

The protection which the farmer gave the birds from the beginning was unquestionably responsible for their rapid increase. The farmer wanted them around simply because they were beautiful to look at and apparently gave little thought to any economic attributes which the birds possessed.

From 1920 on the birds became more abundant and although several reductions in the seasons and bag limits were made, more birds were killed each season. Up until 1923 it was permissible to kill both sexes. That year legislation was enacted protecting hens and permitting the killing of cock birds only, a law which prevails up to the present time.

Today the ringneck in Pennsylvania is as popular with the sportsmen as the ruffed grouse, wild turkey, and bobwhite quail. It has also reduced hunting pressure on these other species.

By 1928 the birds had become alarmingly plentiful in some areas. The ratio of hens to cocks was also far too excessive. In order to relieve conditions in the most seriously affected areas, some of the hens were trapped and shipped to other sections of the State. This was a slow process, and though it helped out, the situation was by no means remedied.

Later on landowners in southeastern Pennsylvania recommended that certain counties be closed to ringneck hunting because stomach examinations of birds killed by automobiles indicated that they were consuming large quantities of Japanese Beetles. Subsequent investigations proved this to be true.

In the early spring and summer of 1929 a number of complaints of pheasants pulling corn were received, but an investigation revealed no serious damage, although in a few instances evidence of corn pulling was noted. During the fall of 1929 some farmers who had previously complained of damage posted their lands against hunting. However, despite the amount of posted lands, the greatest of all ringneck seasons resulted, the kill totalling 212,082 birds.

More live trapping of pheasants in congested areas was done in the winter of 1929, and a trap originated by a former Game Protector proved very successful. In one instance more than 100 pheasants were trapped on one farm.

During the summer of 1930 an unusually large number of damage complaints were received from southeastern Pennsylvania. A thorough investigation followed and a number of pheasants were killed by Game Commission agents in the cornfields of those landowners complaining of damage. The birds were not killed the moment they were observed. They were watched carefully for some time in order to see if they were really feeding, or merely passing over the fields. All birds collected must certainly have fed at least a half hour before they were shot.

When sufficient specimens were taken to satisfy the complainants and to warrant a fair comparison, the contents of the crops and gizzards were carefully examined and classified by responsible experts in that line of work. The results proved beyond all doubt that the ringneck is almost entirely beneficial, for the greater portion of material found were species of beetles and grubs which are commonly known as enemies of corn, including the destructive Spotted Cucumber Beetle. Vegetable matter consisted of Mouse-ear Chickweed, seeds of the Buttercup, Sage and Wild Strawberry, several grains of oats, roots of the Nut Grass, leaves of the alfalfa and clover, and a number of unidentified weed seeds. In only one instance was corn found, but apparently this was watersoaked grain that had been scattered about the edges of corn fields, upon advice of the Game Commission, to discourage their pulling the young shoots.

Summing up the corn-pulling investigation it was learned that this depredation, when practiced at all, is only noticeable among the early plantings. At that time few insects are to be found and it is logical to assume that the birds are searching for grubs. From the moment insect life is available, complaints of corn damage cease almost automatically.

In attempting to prove a case against the ringneck, the landowners overlook the great number of crows, blackbirds, and mice which frequent the cornfields, and collectively do considerable damage.

The most interesting crop and gizzard contents of which we have record was taken from a specimen killed by an automobile in Philadelphia County in early June. It held forty-seven caterpillars, three earthworms, two potato bugs, one butterfly, one hundred and thirty-eight Thelia bugs, thirty-one alfalfa and clover leaves, three buttercup blossoms, one grasshopper, thirty-two wood worms, two spiders, and a lot of small weed seeds which were not identified.

Subsequently other food habit studies were made jointly by the Game Commission and the Cooperative Wildlife Research Unit at

Pennsylvania State College. For example, a survey of Lancaster County tomato fields made during the month of August indicated that out of 45,710 tomatoes counted only 5.11% were damaged. Drought, which represented the most frequent type of damage, affected 2.19%. Only 88, or 0.19% were damaged by birds of all kinds. Of particular significicence are the statistics for the red tomatoes which in most cases were ready to be picked. Only 4,187 of these fruits were tallied, but 1,487 or 35.52% were damaged. Here rot was the important factor, with 59.5% of all damaged red tomatoes falling into this class, while only 5.0% were injured by birds.

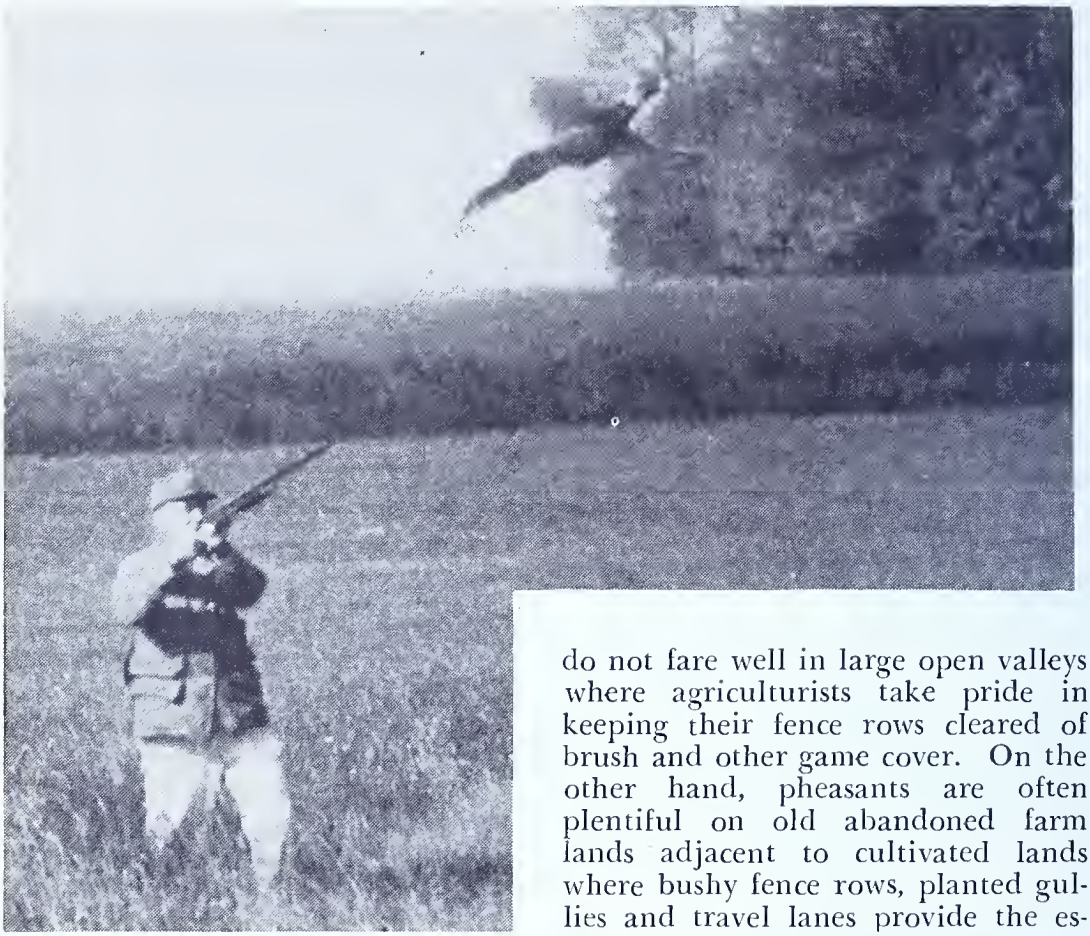
Some farmers were inclined to blame birds for the rot observed, saying that this injury was really caused by bird picking. Other individuals readily admitted that they knew rot was not caused by bird picking when the fruit was small. After they made an actual inspection trip on which true bird damage was pointed out the majority of the farmers were convinced that the loss due to birds was very small. Furthermore, a number of them said that they believed all birds, but particularly the pheasant, do more good by eating harmful insects than they do damage by picking at the tomatoes.

An examination of the crops of 423 pheasants made by the Cooperative Research Project in the fall revealed 56 known species of vegetable foods and 6 groups of insects and other animals. Vegetable matter occurred 1,055 times, animal matter was recorded 126 times and gravel occurred 69 times; 32 of the crops were empty. Corn was by far the most important item taken at this season, 54% of the total volume of all crop content consisting of this grain.

The chief food of the ringneck during winter is corn, and the major source of this food is in the standing hand-picked cornfield. When corn is hand-picked, from three to five

Upgrown fencerows provide good food and cover for the "bird with the long tail."





percent of the ears are left on the stalks. This waste grain is available when the ground is covered with snow, when it is needed most. Standing cornfields usually contain several other choice food producing plants which are eaten by pheasants, such as lesser ragweed, yellow foxtail, smartweed, marigold and others. The seed of the skunk cabbage is also a chief winter food whenever it is found.

There are certain points of general interest that were brought to light in the study of the history of the ringneck pheasant in Pennsylvania. For instance you will note that the birds adapt themselves more readily to corn growing sections where the country is low and rolling with many creeks and considerable marsh areas. Small brushy areas along streamsides furnish ideal pheasant range.

You will also note that the birds do not fare well in large open valleys where agriculturists take pride in keeping their fence rows cleared of brush and other game cover. On the other hand, pheasants are often plentiful on old abandoned farm lands adjacent to cultivated lands where bushy fence rows, planted gullies and travel lanes provide the essential cover and food they need.

In stocking ringnecks only the most suitable areas are selected and the majority of the birds are released in the Spring. Game Protectors supervise such stocking and birds are released only after these men have studied the ground and considered it suitable range, with sufficient cover, food and protection against predators.

The question of predators is not so important where there is suitable environment because the birds can usually find havens of safety. Dense brush protects them from winged enemies and groundhog holes offer protection from larger wild and domestic predators such as stray cats and dogs, foxes, etc. No pheasants are stocked by the Game Commission on lands which are posted against hunting.

The matter of stocking brings up a subject which is tremendously important—one which purposely was

omitted until last so as not to detract from your perspective of the ringneck's general history. This subject concerns artificial propagation. The Commission first attempted to raise ringneck pheasants on several of its refuges. Satisfied with the success of the refuge keepers, inexperienced though they were, it subsequently established several game farms for raising the birds in larger numbers.

Two of these farms, the Fisher Farm near Schwenksville, Montgomery County, and the Jordan Game Farm near Harlansburg, Lawrence County, were established in 1929. Since then the Jordan Farm was abandoned, and in 1946 a new farm known as the Western Game Farm was established at Cambridge Springs. The Fisher Farm was renamed the Eastern Game Farm in the same year and is currently used almost entirely for raising bobwhite quail.

In 1938 a day-old pheasant chick program was established whereby sportsmen's clubs were permitted to raise birds to twelve weeks of age using facilities approved by the Commission. This program also includes landowners cooperating in the Cooperative Farm-Game Program, rabbit farm cooperators or other landowners having 50 acres or more open to Public hunting, except that in these cases the cooperators are paid $1.00 for every bird successfully reared to twelve weeks. Future Farmers have since been included in this classification so long as they reside on farms having at least 50 acres which are open to public hunting. As a result of the day-old chick program nearly 200,000 additional pheasants are raised and released annually.

To further augment the natural supply of pheasants the Commission, in 1950, agreed to pay landowners $1.00 each for protecting pheasant nests by mowing around them, thereby creating "islands" of sanctuary for incubating females. This program has great possibilities if supported by farmers, and others interested in the conservation of wildlife.

The number of pheasants released since 1915 are listed on the following table:

Year	Stocked	Killed	Resident	Non-Resident	Alien	TOTAL
1915	2,096	796	262,355	532	..	262,887
1916	1,370	1,253	290,422	662	..	291,084
1917	4,817	1,412	315,474	588	..	316,062
1918	6,003	2,969	311,290	478	..	311,768
1919	3,585	15,658	401,130	1,128	..	402,258
1920	4,082	23,000	432,240	1,725	..	433,965
1921	2,768	15,400	462,371	1,761	..	464,132
1922	3,836	20,000	473,735	2,126	..	475,861
1923	10,982	38,220	497,216	2,328	..	499,544
1924	8,525	45,876	501,572	2,558	..	504,130
1925	11,894	79,282	521,855	3,190	..	525,045
1926	7,152	93,635	520,574	3,468	..	524,042
1927	6,619	177,561	501,622	4,879	..	506,501
1928	6,058	143,239	437,727	1,190	..	438,917
1929	7,495	212,082	505,103	4,823	..	509,926
1930	15,205	251,362	530,392	6,009	..	536,401
1931	17,498	294,441	572,779	8,964	3	581,746
1932	12,981	246,551	537,451	5,251	1	542,703
1933	27,263	297,751	524,337	4,966	..	529,303
1934	50,005	243,599	568,666	6,024	..	574,690
1935	54,954	281,000	606,469	8,460	..	614,929
1936	47,637	267,890	534,573	7,122	2	541,697
1937	49,899	371,526	598,261	8,357	..	606,618
1938	60,122	517,280	654,146	7,582	2	661,730
1939	57,586	471,539	653,852	9,047	2	662,901
1940	66,334	459,071	666,420	12,748	..	679,168
1941	64,163	537,990	675,434	10,922	..	686,356
1942	46,753	463,794	640,821	8,394	..	649,215
1943	45,672	431,735	570,901	11,833	..	582,734
1944	37,027	414,797	593,917	13,982	1	607,900
1945	30,091	290,917	696,394	17,226	1	713,621
1946	59,507	213,384	832,846	23,172	2	856,020
1947	81,002	220,814	822,423	28,008	4	850,435
1948	93,200	277,254	854,840	28,078	7	882,925
1949	126,048	343,767	815,915	24,027	5	839,947



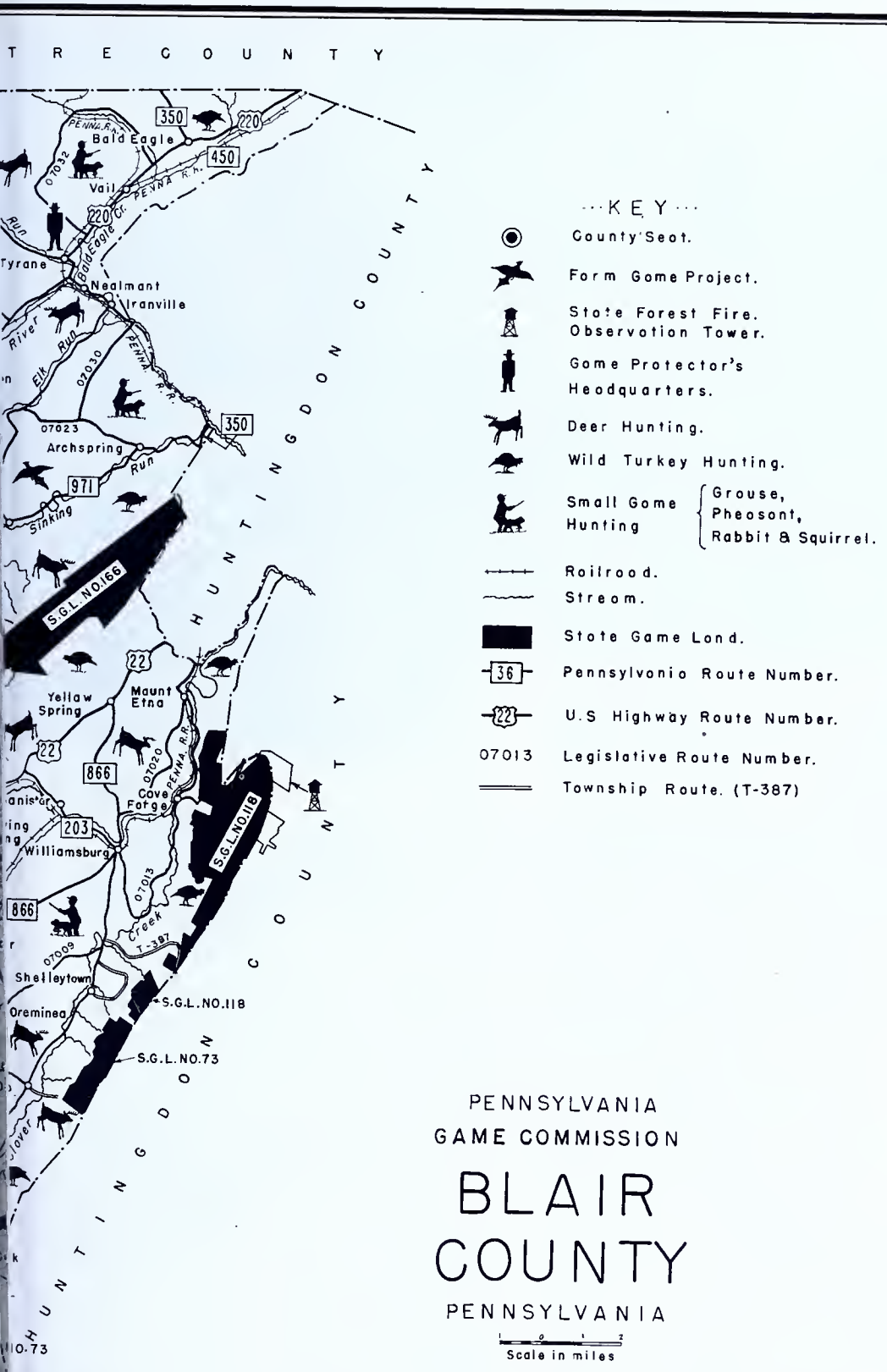
Cornfields and ringnecks are synonomous. Here a handsome cock bird stalks through his favorite feeding ground.

When the Eastern Farm began specializing in quail propagation the pheasant capacity of the Loyalsock Farm, which is particularly adapted to raising these birds, was increased. That the farms are definitely contributing much to pheasant shooting has been clearly demonstrated by the continued increase in the annual kill. Although native stock is generally plentiful throughout its range, which is chiefly southeastern, southwestern and northwestern Pennsylvania, early spring stocking of birds seems to be necessary to replenish depleted ranks and to provide an adequate properly balanced breeding stock. Today the farms are producing approximately 60,000 pheasants every year for release.

The bird with the long tail is here to stay. The "Chink," as he is sometimes called, is a fine bird. Let us provide homes for him and his family wherever we can. Since the birds live in open country, and are partial to agricultural regions, much of their food in some sections is doubtless waste grain. Food at shelters should consist of commercial scratch feed, wheat, corn and buckwheat.

Leo A. Luttringer, Jr.

Chief, Conservation Education Division


T R E C O U N T Y
Bald Eagle
Vail
Tyrone
Nealmont
Tranville
Archspring
Sinking
Yellow Spring
Mount Etna
Cove Forge
Williamsburg
Shellytown
Oreminea
S.G.L. NO.166
S.G.L. NO.118
S.G.L. NO.73
PENNA. R.R.
Bald Eagle Cr.
Elk Run
Creek
Run
River
350
220
450
971
22
866
203
07032
07030
07023
07020
07013
07009
T-387
HUNTINGDON COUNTY
HUNTINGDON COUNTY
...KEY...
County Seat.
Farm Game Project.
State Forest Fire Observation Tower.
Game Protector's Headquarters.
Deer Hunting.
Wild Turkey Hunting.
Small Game Hunting { Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Game Land.
36 Pennsylvania Route Number.
22 U.S Highway Route Number.
07013 Legislative Route Number.
Township Route. (T-387)
PENNSYLVANIA
GAME COMMISSION
BLAIR
COUNTY
PENNSYLVANIA
1 0 1 2
Scale in miles
L.A.M. 1951

Historic

Although one of the last counties to be organized, Blair County was settled in the pre-revolutionary period, along with other frontier counties on the eastern slopes of the mountains. The Scotch-Irish and German settlers sought the fertile land of Sinking Spring, Logan, Scotch, Canoe, and Juniata Valleys. As the mountainous terrain did not lend itself to agriculture, the old iron factories were the most important industry of the earlier years. Sinking Spring Valley is the sight of lead mines which furnished more than half the lead used by Washington and his armies during the Revolutionary War. In the early 1800's Hollidaysburg became the terminal of the Portage Railroad which took canal boats over the mountains to Johnstown, where they were launched on the Conemaugh River and floated to Pittsburgh. After the canal system was superseded by the main line of the Pennsylvania Railroad, the railroads central car shops were built in the newly located town of Altoona. The effect upon the entire county was immediately noticeable. Almost overnight, Altoona became one of the important cities of the State, and the shops provided the major field of employment for residents of the county. One of the most important historical events to take place in Blair County was the meeting of the Loyal War Governors' Conference in September 1862. The conference was called at the direction of Governor Curtain of Pennsylvania in a further attempt to rally the Northern states in the prosecution of the war against the South. The result of their pledge of allegiance to President Lincoln greatly encouraged and aided him in the great task before him. The following governors attended the conference: Andrew G. Curtin, Pennsylvania; John A. Andrew, Massachusetts; Richard Yates, Illinois; Israel Washburn, Jr., Maine; Edward Solomon, Wisconsin; Samuel J. Kirkwood, Iowa; O. P. Morton, Maryland; William Sprague, Rhode Island; F. H. Pierpont, Virginia; David Tod, Ohio; N. S. Berry, New Hampshire; Austin Blair, Missouri.

Recreation—Hunting

Blair County offers plenty of good small game hunting, as well as excellent deer hunting. Some bear are found in the County, although not in large numbers. Six tracts of State Game Lands are located here. They are Number 147, near East Sharpsburg, comprising 4398 acres, Number 166, near Archspring, comprising 4290 acres, and the following portions of Game Lands not found entirely within the County: Number 26, 1007 acres; Number 198, 2789 acres; Number 73, 2226 acres; Number 118, 3853.1 acres.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stocked waters) include: Bald Eagle Creek, brown trout, Tyrone, 5 mi.; Bells Gap Run, brook trout, Bellwood, 5 mi.; Big Fill Run, brook and rainbow trout, Bald Eagle, 2 mi.; Blair Gap Run, brook trout, Duncansville, 5 mi.; Bobs Creek, brook trout, Blueknob, 4 mi.; Canoe Creek, brown trout, Canoe Creek, 4 mi.; Clover Creek, brown trout, Williamsburg, 15 mi.; Frankstown Br. Juniata River, brown and rainbow trout, Claysburg, 7 mi.; Piney Creek, brown trout, Williamsburg, 7 mi.; Riggles Gap Run, brook trout, Pinecroft, 3 mi.; Sinking Creek, brook trout, Elberta, 2 mi.; Smokey Run, brook trout, Claysburg, 2 mi.; South Poplar Run, brook trout, Claysburg, 5 mi.; VanScoyoc Run, brook and rainbow trout, Bald Eagle, 5 mi.; Frankstown Br. Juniata River, black bass, East Freedom, 14 mi.; Williamsburg Dam, black bass, Williamsburg, 45 A.



If you're bored with life try this stunt—stick your finger within six inches of that hooked bill and see if the hand *is* really quicker than the eye!

Crow Bait

By Edward T. DeVoe

"What in the world do you do with a great horned owl?" I asked incredulously.

"Use him for crow bait," he replied, grinning at me in a friendly manner.

Sensing a story, I pressed him for particulars. Here is his story, more or less as I pieced it together.

Stanley Levan is a student at Bloomsburg State Teachers College, where I am an instructor of English. Although I have never had Stanley in class, I heard about his exploits in my capacity as adviser to the student newspaper, the MAROON AND GOLD. We were looking around for some feature material when we stumbled upon Stan's unusual exploits in the field of sports.

In the first place, Stan would rather hunt than eat. His devotion to wildlife is that of a newly-married man toward his bride on their honeymoon. No trip is too long, no trek is too arduous, if there is a sign of game at the end of the rainbow.

"Pete" came into his life a little more than two years ago when Stan found an owl's nest high up in an old tree about five miles from Bloomsburg. His attempts to capture the old bird led to night after night of cold vigilance since he found the nest in February. Borrowing a pair of linemen's climbers, Stan shinnied up the tree and discovered a tiny owlet cringing in the cavernous nest of twigs and branches. Ringneck feathers littered the nest, a fact which accounts for the $5.00 State bounty on these predatory birds.

With the idea of killing two birds with one stone, Stan anchored a fox trap securely to the bottom of the

nest and departed, uttering a silent prayer as he clambered down the tree. The old owl, however, was much too smart to fall for such a ruse. She skirted the trap on her stealthy visits to the nest to provide food for her offspring. Disappointed after another three-day vigil, Stan did the obvious thing. He slid the tiny fledgling inside his jacket and clambored down the tree with his prize.

Placed in a strong pen, Pete thrived on a diet of dead crows and other small game. During hunting season the undesirable parts of game are stored in the Levans' deep freeze unit as a potential food supply. The black-feathered birds are his favorite dish, and Stan is kept comparatively busy supplying food for his ravenous appetite.

To put it mildly, owls are gluttons. On one occasion Pete gulped down thirteen sparrows in rapid succession and topped off the repast with a plump starling. Given the opportunity, the owl gorges himself and later regurgitates bones, feathers, or fur in a compact mass. In two years, Stanley has never seen the owl drink water. All necessary moisture evidently is obtained from the flesh of animals and birds that make up his diet.

The owl is a tough customer. He is as silent as a cat as he flits through the forest on fringe-tipped wings, and as vicious as a hungry wildcat. He has few natural enemies and is difficult to down, even with a shotgun.

On one occasion, Pete took a one-night sojourn when Stan inadvertently left the cage of the pen standing open. He must have found slim pickings, however, for the next night he was found perched in a nearby tree, hooting with all his might. He was lured to the ground with a bantam chick and captured with barely a struggle.

Pete helps out the larder on occasions by posing unwillingly as "crow bait." Late in the afternoon, either in spring or fall, Stan fishes Pete out of the cage and attaches a heavy shackle to his leg. Then the two search out a likely-looking crow fly way and the fun begins. Pete is anchored in an open spot in a field, and Stan hides behind a blind of bushes with his trusty 12-gauge. As soon as crows are spotted overhead, Stan gives one or two blasts on a crow call and the Stukas start dive-bombing and strafing their hated enemy.

Swooping from a great height, a black bomber dives at his hated quarry, rakes him with his claws, wheels and strafes him a second time. The next bomber moves in for the "kill" and Pete is bowled over by the force of the strike. Ruffled and furious, his baleful eyes glaring murder, he struggles to his feet only to suffer the ignominy of being bowled over by another furious onslaught. The Stukas come screaming in for another disastrous ground-level at attack.

The 12-gauge barks—the shot pattern spreads safely above Pete's head, and a hated enemy flutters to the ground. The gun speaks again and again as the enemy presses the attack in spite of heavy losses. Pete suffers silently, no doubt contemplating the rich store being laid up in the larder. Finally the attack is driven off and Pete is loaded ignominiously into the trunk of the car, minus most of his topnot—a sacrifice to the fury of the enemy attack.

Alone in his pen, Pete soon regains his unruffled composure and glares at the visitor with his saucer-like eyes, uttering a rather tremulous and half-hearted "Who-o-o-o."

This spring Stanley and I hope to make a 300-foot motion picture of this scene in color with a 16 mm. Bell & Howell equipped telephoto lens. With good sunlight and a little luck, we should be able to film a minor classic using Pete as crow bait.

. . . *The End*



Dear son:

I liked your last letter a lot. Glad to know you are getting more interested in your school and that the lessons are coming along better all the time. It's a good school and you must try to enter into the spirit of it, respect its traditions, help fight its battles on gridiron and track, and form as many warm friendships as you can among boys of the right sort. It's usually the friendships of our younger years that count with us most in after life. You'll form many fast friendships later on, but somehow there's always a difference. "There are no friends like the old friends," is an oft quoted saying of much truth.

As to your lessons I won't say much. You know it is for them that I have sent you away to school and I have far too much confidence in my boy to feel that he needs any prodding from dad. Work hard, but not too hard, and you'll come out all right. And don't worry. Just try to *think* things out. Worry is far worse than too much work. And, in any event, life itself is bigger than lessons. Life is even bigger than business. You might always remember that. So many business men don't. Most sportsmen do—which is just another reason why I'm so glad to see the sure signs that you're going to be a sportsman in every sense of the word. Perhaps I might better have said why I'm glad you *are* a sportsman.

About the football—good for you! But I knew you'd make the team—so while I'm glad, I'm not surprised. Funny thing, though, how I do feel about it. If you didn't want to play, I'd feel like trying to make you. But since you're so keen for it, I find myself sometimes wishing you weren't on the team, just because I don't want you to get hurt. But I guess you're too much of a chip off the old block not to be into athletics. So I try to be happy and pray you'll

come out all right. I know you'll play the game hard and play it fair. There's no use to play any game and just dabble in it. I'd much rather you wouldn't play at all than not to play hard. Try to win by every fair means—but never foul. And yet, if you do lose, you must stand to one side and cheer as the winners pass by. Yes, and one thing more—it is not enough just to *lose* gracefully. Learn to *win* gracefully, also. One is as important as the other. Losing used to be devilishly hard for me; but I'm getting better at it, I think. I've had to, for I've had to take a lot of it. I may not like a licking, but if I can take it and still smile, I always feel I've gained something thereby. You, my son, will be better at both winning and losing than I have ever been.

I note you say it won't be necessary to send your gun, as football will keep you from any chance of hunting. Well, I guess that's right. It was the same with me at your age. Perhaps if you can get the week-end after Thanksgiving game, you might run home and we could have one good hunt together. The dogs are missing you. That's plain as daylight. They show it every day. Betty was nine years old last Tuesday. Gee—that cuts me like a knife! I can't bear the thought of the passing years. It's hard to think of them in my own case—but a dog's life is so awfully short! It somehow doesn't seem quite right. But I presume the Creator has thought things out more wisely than we know.

You have asked me to talk to you of hunting and fishing in my letters. That's a good idea. I wonder if you are just trying to humor your dad's favorite hobby, or whether you'll really enjoy it. But I think you're far too frank for that, so I'm taking you at your word. There will, of course, be other things to say from time to time; but as a basis to liven up the letters the suggestion is a good one. Furthermore, it has occurred to me that, if you care to save the letters, you may re-read them again in later life with new enjoyment. So in each letter from now on, through both your Prep School and College days, I shall try to let this main subject run through my letters to you. To you I do not believe it will be a tiresome subject. I think I know my boy too well to be mistaken; so again I thank you for your good suggestion that I should do this.

Well, here goes. I can't remember further back than my interest in hunting. Must have been born with it. Bought my first Setter puppy when I was not over twelve years old. Everyone owned Bird Dogs then, and I got mine from a darkey who had gotten permission to breed his bitch to a very fine dog owned by the man for whom he worked as coachman (that was in the old horse days and there were no *chauffeurs*). I got a great "kick" out of owning this puppy, which I had saved up five dollars to buy. Used to take her to the fields every morning before school and work with her—only had to walk about a mile to get there in those days.

Father teased me about it. Said I was an "extremist." Said I overdid everything that interested me. You'll smile at that, for you know I've been doing it ever since I'm an "extremist" still. Used to get up at four o'clock every morning and go out with gun and puppy. We'd get home in time for a hurried breakfast before school. But this lasted for only a month or so, when the puppy got distemper and I lost her. It was a long time before I could afford to buy another. Although the puppy died, however, the love for hunting that was in me did not. Rolla O. Heikes was the greatest shot in the world at that time and he lived only a few houses from us. His gun room fascinated me more than any other place I ever saw as a boy. I doubt

if he himself ever knew what a lure it held for me.

The second Bird Dog I ever owned was a Gordon Setter (at least *mostly* Gordon) that a man who owed father some money gave him to settle the bill. We called this dog "Frank" and I love his memory still. He was the first of the *real* dogs I have owned. Behind him I killed the first quail I ever shot at—but perhaps I should add that it was a long time before I killed my second. It was just rank luck that I killed the first one. I know I didn't aim at any bird in particular—as I've always told you one *must* do if he would shoot consistently and well. You can't just aim at a covey flight and pull the trigger. Luck isn't regular enough for that. You've got to *pick your bird every time.* Otherwise, you'll never be a good quail shot.

I might tell you about that day—for it illustrates how the hunting "bug" was deep within me. We had wandered several miles above town, old Frank and I, following the river and hunting the fields adjacent thereto. I noticed that it was growing dusk and should have retraced our steps, for we had to walk all the way home and I could tell we would be late for supper (we didn't call the evening meal "dinner" that long ago). And yet, though I was but a boy and knew that to be late would bring down admonition upon my head, something lured and *compelled* me to go on. I could not explain it—and can't now so well—except that I was gripped by the spell of autumn. The frost was on the pumpkin and there was a mystery about things of field and woods as the gray blanket of dusk softly descended and laid its folds over the reds and purples and golds of dying leaves. You, my boy, have already hunted with me and know how it is about such things, and so should understand without more words from me. It's something you *feel.* It cannot be explained. Words won't help with those who know; and with those who don't, mere words are sadly inadequate.

And so I wandered on. How long I might have kept on going. I'm not now able to say. But old Frank stopped me as he himself was stopped by birds. He had been hunting out ahead—as all dogs should—when I sort of woke from reverie to realize that I had not seen him for some minutes. That brought me to myself and I started to look him up. It was some time before I found him. When I did he was on point. I've seen a good many fine points since—but not one that has ever thrilled me as that one did. The first great thrill comes but once! *You* have felt it, I know. You were hunting with me once when you were a very little lad and had gotten pretty tired. It was hard to get you to admit it, but finally you did. I knew then that I had carried you afield farther than I should. I wondered if you could make it back to the car. Then suddenly Byrd hit birds; and after you had walked up behind that point and dropped one of the little brown flyers, you told me: "I don't feel a bit tired anymore, dad." And, in truth, you didn't. That's why I know you'll understand. A Bird Dog on game *does something* to you. That's the best way to explain it.

When I found old Frank that day, he was deep in a tangle. I had passed him twice without seeing him. He was a Gordon, you know, and black. But I finally found him, stanch as stone. And he *had 'em.* I was so held by the fascinating spell of the thing that it was some time before I could summon the momentum to step forward and flush his birds. A thousand thoughts raced through my soul as I stood behind that dog that day. Daniel Boone never felt the spell of the wilderness more deeply than I. Supper now was forgotten—so even was home—*everything.* It was not that

this was deliberate on my part. I was lost in the spell. Material things simply ceased to be. And then when at last I did step in, I killed a bird as I've already told you. It was pretty dark to shoot, but that didn't matter —for I just shot blindly and it was all luck anyhow. But when old Frank brought that bird in to me, and I had killed my first quail over a real point, nothing else mattered—*not anything.* Not even the worst kind of a scolding could have made a bit of difference—I should not have heard it. My soul was soaring high above all earthly things.

It was bedtime when I finally got home that night—and even to this day I can't for the life of me recall what happened. I was probably sent off to bed without a bite to eat; but even that I don't remember. I may, or may not, have been given a hard scolding—I can't recall. Just one thing I do remember, and always will—and that is the vivid memory of that first point and the fact that I killed my first quail over it. Those two facts were chiseled so deep that day that even now they are still as fresh and clear as though it had all been but yesterday.

Now I have told you the story of my most glorious early adventure. Of other "red letter days" I shall have to tell you in later letters. This has been a rather long one and the "old man" is getting a bit drowsy. We'll have lots of hunts again together, you and I, when your school days are over. You'll come into the business with me then, and I shall arrange it that we take our vacations together. And now for tonight goodbye and God bless you.

Dad.

A NEW KIND OF DOE FEVER

An article from the Toledo Times, Toledo, Ohio, last January, relates the following amusing incident that took place in our sister state:

Webb McCloskey is busy cleaning his shotgun. It seems that on his trip to Ashtabula County for the opening of the Ohio deer season he tried out a new type of ammunition—but let's start at the beginning.

Webb had planned to hunt near Andover but hunters were so numerous there he retreated to Cherry Grove. At 9 a.m. on the dot, just as he entered a small woods, he spied two does. He picked out the largest and scored a hit. The animal ran a short distance and stopped in a thicket.

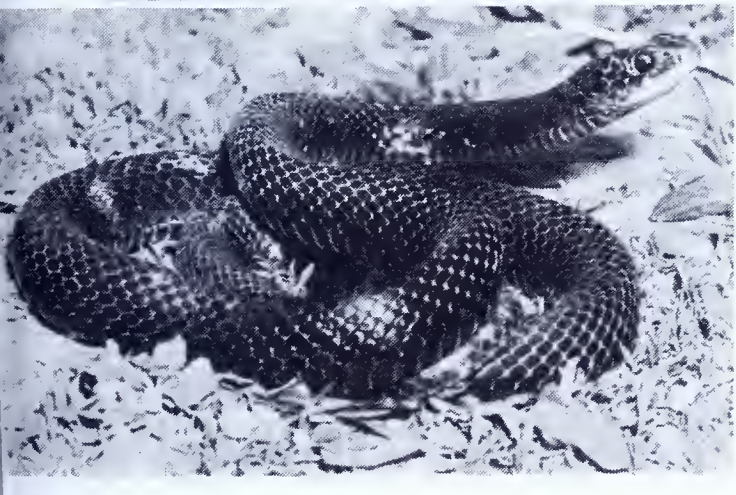
Without taking his eyes from the doe, Webb reached in his shell pocket, took out two cylinders and put them in his gun for the final kill.

As he pumped one into the chamber he heard a peculiar grinding noise instead of the familiar click. White powder puffed out and the gun mechanism jammed. Mentally he wrote the doe off as lost. What a time for a gun to fail! As he looked for the trouble he noticed a strong odor of peppermint in the air. He had inserted two rolls of life-savers instead of shotgun shells!

I would like to say that this was a life saver for the doe but just then she dropped, thus spoiling a good gag.

As I said, Webb is busy cleaning his gun but he has the satisfaction of having set a record for local deer hunters. In spite of his unorthodox ammunition, he downed his deer within five minutes after the season opened—and a 176-pounder, at that!





Outdoor Kids

By Hal H. Harrison

BILLY and Jane are not afraid of snakes. The day that their dog Pal cornered the blacksnake at Pleasant Hill Farm and tormented it with his barking and lunging, the children made him stop. They stood nearby and watched the reptile as it crawled away into the high grass.

The children have been taught to recognize the two poisonous snakes in Pennsylvania: copperhead and timber rattlesnake. They have never

seen either one in the wild. If they do, they will know know enough to keep away from it.

They know the names of the common snakes, too, and they have no fear of handling such little serpents as the garter snake, ring-necked snake, green snake, DeKay's brown snake, red-bellied snake and ribbon snake. Indeed, Jane had a pet green snake for a long time, and she enjoyed feeding it and watching it.

Billy and Jane do not handle the bigger snakes such as blacksnakes, banded water snakes and house snakes. While these are not poisonous, they do have sharp little teeth, and even a small bite may become infected. The children keep their distance when they are around these big reptiles. But they don't run away. They are not afraid.

Reptiles are cold-blooded animals with backbones. They breathe by means of lungs. All snakes are reptiles. So are turtles, lizards, alligators and crocodiles.

A snake's tongue is long and forked. It is NOT a fang, and it is used for smelling, not as a "feeler" or "stinger."

The majority of reptiles lay eggs, but quite a few give birth to living young. Blacksnakes lay oval-shaped eggs with leathery shells. Billy and Jane saw a cluster of blacksnake eggs one day when some men found them buried in a pile of sawdust at an old logging camp. They brought them home and later had a thrilling experience of watching little snakes breaking from the eggs.

Billy and Jane learned that baby blacksnakes are not black like the adults; they are blotched with brown and gray.

. . . *The End*

THE ROLE RED ACTUALLY PLAYED IN PENNSYLVANIA'S 1950 HUNTING TRAGEDIES

Some students of the causes of hunting arms casualties say that "About the only value a game hunter derives from the wearing of red is a false sense of safety." Their opinions appear to have been based solely on whether hunters wore red at the time they were injured or killed, not whether the red worn was visible to the shooters, or whether red was worn by gunfire victims whose garb would not have affected the outcome in the least.

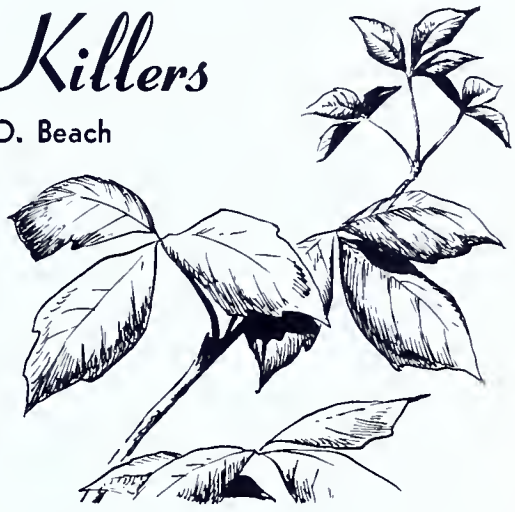
Among the states, Pennsylvania's hunter casualty records have long been recognized for their completeness. They have aided in the search for remedial measures whereby the number of so-called "hunting accidents" may be reduced. An analysis of the state's 1950 record developed some surprises relative to the part red actually played in the hunter casualty figures.

Persons shot while hunting in Pennsylvania last year nmbered 465. (Sixteen of these were fatalities). Of the 465 casualties, 141 wore no red. Gunfire victims who wore red totaled 324. In 297 of these 324 cases, the wearing of red, or the failure to wear it, did not influence the result. They include: persons who shot themselves or others when their firearms discharged unexpectedly; those struck by ricocheting shot or bullet; and others who were hit while completely hidden from the view of the shooters.

The number of 1950 casualties in which red worn by persons maimed or killed was visible to the shooter, accounts for only 27 of the total 465. These were the inexcusable cases in which the red that the offenders saw should have warned them not to shoot. Of course, we shall never know the number of persons who returned home safely only because other hunters saw red they wore and did not fire at them.

Weed Killers

By Grace O. Beach



WEEDS, weeds every place. They flourish where nothing else will. We must get rid of them some way and we generally do by hook or by crook. It is human nature to do any nasty job as easily and quickly as possible, so the new modern chemical weed killers are a real "come-on" for an easy way out of a grubby distasteful job. These new herbicides are particularly appealing to the landowner since they affect only the obnoxious weeds but do not harm grasses and many other types of plants. That much we know and like, but aside from that, just what else do we know about these potent and powerful chemical mix-



tures we so flippantly spray about our gardens and farms?

That question was brought to the writers attention rather forcefully and suddenly, and it was quite a disturbing one.

Late last summer, a landowner and well known Pennsylvania Sportsman found to his dismay that the rabbits on his farm were suddenly dying off with a mysterious ailment. They became sluggish and appeared to stiffen, then after a short period of time would lapse into a type of spasm and die.

The manner of the attack was unusual. Examination showed no marks of any kind on the rabbits, nor was the sickness of long duration. It struck hard and fast.

Being a conservationist, as well as a sportsman, he became alarmed over the situation. He visited his neighbors and discussed the matter with them. He found that at one of the farms next to him the owner had experienced similar trouble, and in addition, had lost a couple of cats in the same manner.

The sportsman consulted the Game Commission. They agreed that the situation was a questionable one, but could offer no solution to the problem without more tangible evidence. It was suggested that a specimen in good condition be gotten to them as quickly as possible for a laboratory examination to determine the cause of death if possible.

Apparently, it was too late to make this test, for as quickly as the malady developed, it also ended. This served only to strengthen the suspicion that the weed killer might have been the

cause, since sufficient time had elapsed for its deterioration. Besides there had been an intervening rain which would also have a tendency to destroy or weaken the chemical applied. This of course was only conjecture and had no scientific basis in fact.

A short time later a Game Protector on his rounds picked up three dead pheasants free of any marks. They had all been found within a short distance of each other on a right of way that had been sprayed with weed killer a day or so before.

By this time the writer's curiosity was thoroughly aroused and the desire to learn more about these insecticides and herbicides being so freely used on our gardens, lawns and farms became a number one project.

The first step was to contact our good friend Dr. J. K. Doutt, Curator of Mammology at Carnegie Museum in Pittsburgh. As head of the research study of the Mammals of Pennsylvania and much interested in conservation measures, the subject matter intrigued him as we had suspected it might. Dr. Doutt said he would be glad to assist in getting scientific data and help in any way he could. Together, we set about collecting every bit of information available and contacting every known source of information and reference.

As the answers to the inquiries came back it was amazing to find that relatively little was known about the actual effects of these sprays and dusts on wild creatures, but even more startling, there was very little more information available as to their effect on humans or domestic animals.

After several weeks of collecting information, and very meager information at that, one fact stood out above all others. We were spraying herbicides over the countryside without knowing what effect they would have and not even questioning or caring about it in the least.

More important still, wildlife experts and conservationists were fast asleep at the switch. It was quite apparent they had no more information for or against these chemical products than we had found available and they didn't seem to be doing anything about the situation.

It is difficult for a layman to wade through a batch of technical references and scientific data and then present it in brief non-technical, and non-scientific terms. In attempting to do just that the writer is probably deliberately crawling out



on the proverbial limb, saw in hand. But if this article can stir some action on the part of conservationist and wildlife experts to exert some effort to find out the truth about these herbicides, or cause the landowner to use discretion in the kind and amount he uses and where it is used, it will be well worth the effort put forth.

There are many brands of weed killers on the market and the compounds used in these formulas are varied. It was learned that a great deal depends upon the compounds used and particularly the inert solvents (which aid in dissolving compounds in formula without themselves dissolving) employed in the formulations. It is suspected that some hazards in handling them may be due to the solvents, rather than the herbicide content. In some instances the user is warned against permitting the solution to contact the skin

or eyes because of their effect on these delicate membranes.

2,4-D (Dichlarophenoxyacetic acid) seems to be the best known of these formulae on the market and is the only one about which much is known so far as actual scientific data are concerned. The compounds used in this formula are—acid, alkanolamine salt, triethanalamine salt, sodium salt, isopropyl ester and butyl ester. The formula 2,4,5-T is apparently about the same, as near as it was learned.

The product 2,4-D is one of the newer herbicides and so far the few experiments carried out seem to indicate that it appears to have no ill effect on the live stock which may eat the plants. Although, it was learned that while they are relatively tolerant to this weed killer, there have been some reports which indicate that the palatibility of some poisonous weeds might be changed when they are sprayed with 2,4-D so as to make them more inviting to some kinds of live stock. If this is true, then one might expect that some kinds of game and birds might also be attracted to certain poisonous plants and seeds sprayed with this formula, causing destruction to those eating such plants, or seeds.

This information is available only on scattered observations made by laymen and not trained scientists. While this fact is recognized by scientists and given credence, they stress the point that there are no sound experimental data to back it up.

From the tests carried out in laboratories so far, acute toxicity (poisoning) follows oral administration (by mouth) in dosage ranging from 320 milligrams per kilogram of weight in guinea pigs, to 500 milligrams per kilogram of weight in rats. Injections of the formula on mice determined the lethal (death dealing) dose at 280 milligrams per kilogram of weight.

In order to more readily and clearly follow the tests the layman will want to put these technical measures on a laymans basis. There are 1000 milligrams to a gram and approximately 4 grams to the measured teaspoonful. A kilogram is approximately 2 1/5 pounds in weight. Therefore, the oral dose would be about 1/25th of a teaspoonful per pound of weight. For example, on this basis, it would require 7 teaspoonsful to produce acute poisoning in a man of approximately 175 pounds in weight. From this it can be readily seen that 2,4-D is not highly poisonous. Not being too good at fractions, the author leaves the reduction of the other experiments to the reader. This is given merely as an example to put it on the basis of medical measurements employed and used by the layman.

Another experiment employing injections of 150 to 200 mg per kg (Bucher) produced a spastic or muscular affection that lasted from 8 to 24 hours or more in different species of animals. Within a half to three-quarters of an hour following dosage, the animal ceased most voluntary or spontaneous activity, and sits very still. However, he remains alert and awake. When he is induced to make a sudden movement, such as a quick start a spasm takes place. The limbs spread out and he falls and lies helpless, vainly trying to regain his footing. Muscular spasms may take place momentarily. The hind limbs are usually more affected than the front limbs.

Larger doses used during the experiment ranging from 250 to 350 mg per kg brings about the same symptoms but the inertia or sluggishness develops into a coma. The animal lies on its back with all four feet in the air. Respiration is almost impossible to detect. The animal is flaccid, yielding to pressure without resistance and is cold to the touch. This state may terminate in

death after several hours or days. Sometimes, the mice go through the same stages in reverse order and recover completely without ill effects.

These symptoms you will note sound strangely familiar and seem to parallel those of the rabbits on the sportsman's farm.

Other toxic effects noted, have been an irritation of the eyes and nasal passages, particularly in dogs, resulting in sneezing spells and violent rubbing of the eyes and after 24 hours a gastro-intestinal disturbance producing vomiting and diarrahea. These symptoms have all occurred in mice, rats, rabbits and dogs following single injections.

The above symptoms so far as dogs are concerned will no doubt have a familiar ring to some dog owners. Last summer at least two cases of similar circumstances were experienced by beagle owners, within the writer's knowledge, and it was not determined what had brought on the attack. There are no doubt others of similar circumstances.

Another laboratory test was carried out using sheep for the experiment. (Glendening and Paulsen). Each sheep was given one gallon of water daily containing 0.36 grams of 2,4-D for 23 days without any detrimental effect to the sheep.

So far as is known from the information available 2,4-D in the amount ordinarily used for weed control is not harmful to animals grazing in pastures, but beyond that there is no scientific data available or uncovered to date, other than that given here. 2,4,5-T appears to have about the same effect and the reactions follow much the same pattern.

Another herbicide known as "Ammate" which probably refers to the use of ammonium sulfamate in the formula, shows that tests made, place the lethal dosage at approximately 1.6 grams per kilogram of weight for the rat. The effects of this solution like the others, has not been thoroughly explored in the laboratory it was learned. However, it has been reported that the application of a 4 percent solution applied to the forearm in humans was not irritating. Whether or not systemic effects could be possible from these dermal (skin) applications, scientists have not yet discovered.

The chronic effects are not considered as too serious, since it is reported that rats do well on a diet containing one percent ammonium sulfamate when fed this diet for approximately 100 days.

Briefly summarizing the products named so far, it would be assumed fairly safe if directions are followed and proper prescribed formulas are used. However, it might be questionable if you followed the thinking of some folks, who feel that if a little does a good job, more will do a lot better one. The user will find that the directions given, are in the amount that will do the best work, and they should be closely followed.

A quite different picture presents itself however, when it comes to considering the herbicides—Endothal and Maleic Hydrazide.

Endothal must be rated as a poisonous substance. The lethal dose in rats is rated at 35 mg per kg. Deaths are markedly delayed which is of considerable importance. Nothing as yet is known in regards to its effect upon the skin, nor the chronic effects. It was learned also, that it is proposed to use endothal in conjunction with ammonium sulfamate and considerable apprehension is felt concerning the use of this compound, by the scientific field.

Maleic Hydrazide is another that is quite questionable. Effects noted may be quite low, but the over-all effects may be quite serious. Compounds of this nature have been known to produce serious blood effects, but is not a serious consideration from the standpoint of affecting

the skin, at least so far as is known.

The article up to this point has dealt with the possible effect of these weed killers upon human beings and birds and animals. It might be interesting to the reader at this point, to know that these herbicides used for killing weeds do their work in a peculiar manner. In themselves, they do not kill the plant, but rather they promote rapid growth. The plant succumbs from exhaustion of effort, and not from the poisonous effect of the substance applied. This is probably contrary to any notions you may have had with regard to these products.

One of the most shocking and disturbing reports received that effect another completely different element not yet mentioned, was the fact that it is believed that serious consideration must be given to the question as to what effect these herbicides have on the soil. It seems that once the soil has been sprayed or has absorbed the solution it remains in the soil for some time, perhaps years. How long is not known. This being the case it can creep and spread affecting other plants, trees and shrubs, causing them to die. Or, if plants which would be affected by the solution are later planted in contaminated soil they will die upon contact. If this report be true, it is of the greatest importance to the landowner or agriculturist, as well as to wildlife technicians and conservationists. While reliable reports and experiences seem to verify this fact, no experiments of a scientific nature were uncovered in our search for information.

Summing up all the information at hand it would seem most advantageous to determine definitely what product you are using and the contents of the formula. They are printed on the labels of the product. Follow instructions implicitly and to the letter. Be careful in their use protecting yourself as much as possible, particularly the skin and eyes. July and August are the months when these products are most used and for that reason this article was timed to act as a guide.

If you do use a weed killer, keep careful scrutiny of the results and report any unusual occurrence to the Game Commission. It would be preferable if you called your local game protector immediately, should you note that game animals or birds have been affected in any manner. In any event make a report. The author will welcome any experiences or any information on this subject.

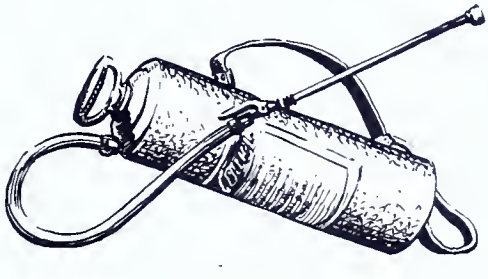
It is hoped that sportsmen, landowner wildlife experts and conservationists will bring pressure to bear to prevent the unsupervised and unscientific use of these herbicides until such time as it can be definitely established that they are harmless to wildlife, domestic animals, birds, and our soil, and above all to human beings. That we cease the indiscriminate use of these formulae until we know that they can be safely employed without harm.

The writer suggests that those interested might awaken our conservation departments to delve into this matter and come up with some kind of answer one way or another.

It would be extremely gratifying, if when seeking information in the future on this subject, the replies would come back "We are glad to inform you that we have the information you are seeking."

There is a real job to be done. Let's get busy before it is too late.

. . . The End



Are We Giving Our Boy a Break?

By Ed Shearer

WHEN this appears, the summer vacations will be in full swing. In the more fortunate sections rodents will have been ousted summarily and camps will have exchanged their musty odor and accumulated dust of the winter for the more pungent fumes of the frying pan. The grub will hardly be stowed away and the bunks made up before you will hear the popping of America's No. 1 gun, the 22 cal., striking the country's No. 1 target, the tin can, with a musical clink. The delighted whoops of our youth as they roll a can or shatter a bottle, can be heard from ocean to ocean and border to border. This is one period of the year that Pop has the time to give to Junior's powder-burning.

I sincerely believe that never in the last 100 years has it been so imperative for Pop to not only take an interest in his sons but to be sure that they have a far more thorough knowledge of marksmanship than the hap-hazard, hit-or-miss, tin can shooting.

There is no use in blinding ourselves to the fact that our carefree lad, banging away at tin cans today, may soon be sent to some far corner of the world, or even on our own door step, to wipe out enemy snipers or a machine gun nest, even if he still is a baby in our eyes. Many veterans of the last war and this "what-you-call-it" in Korea could bitterly testify to the futility of fire power if you can't hit with it.

Being a firm believer in the ability of the youth of our country to beat any game if given half a chance I think the average parent should have a fair idea of the conditions his boy will be up against, without any propaganda or hoop-la. Let us take the words of Brig. Gen. Merriet Edson, Congressional Medal of Honor recipient and Marine Commander of Edson's Raiders. Gen. Edson says in part:

"The American lad is the best material there is from which to shape a fighting man but he lacks training, and the foundation of that training is marksmanship. Few American boys today are woodsmen, or riflemen either. Maybe their ancestors were, but they are not."

During the last war I talked to hundreds of infantrymen and their stories ran pretty much the same. They spent very little time on the range, and this was borne out by the fact that in all that number I could count the qualification medals on my hands. Furthermore, they were all classified as Marksmen, which is the lowest qualification. In every case, investigation showed the medal-wearers learned to shoot before coming to the army. Spot-checks in France by Bill Shadel of the NRA showed our troops using area fire because of the low quality of the marksmanship. So when they dug 'em out they paid in blood instead of ammunition.

The Marines I checked, though, were another story. Qualification medals were fairly common, with plenty of expert medals showing. The Marines demand high individual accuracy, and they get it—whatever the weapon used.



Korea has demonstrated the inability of air power, even when unopposed, to eliminate troops in certain kinds of terrain. Thus the doughfoot is still digging them out on many occasions. One of the big reasons why our losses are kept within reason is the fact that the Chinese brand of marksmanship is about on a par with that of the early American Indian. It covers up our own deficiencies.

The Russians would be a very different proposition, and you could figure the losses yourself under the same conditions. For a decade shooting has been taught in the factories, among the workers and in the regular school system. At about 13 years of age the pupils are working with automatic weapons. Even the women share in this program. It does not take a seer to know that digging out troops of that sort would require marksmanship and skill of the highest order.

You may ask, "What is the answer?" Well, the best start is to face facts. It seems to be impossible for the military to give adequate individual training in the time allowed, and we cannot expect it. So the only answer is to train our lads before they go into the army. The idea that hunting will make your boy a marksman is erroneous.

The best plan is to join the National Rifle Association of Washington, D. C., or one of its affiliated clubs. A penny postcard will bring you all the information required. Numerous clubs for Junior Riflemen have been established in our city halls, which plan has the added advantage of bringing together our youth and our police, to the lasting benefit of both. In addition, there are Senior N.R.A. clubs and sportsman's clubs which take an active interest in Junior activities. Without a doubt, shooting should be taught in our public schools under competent instructors. This is a must. It is criminal to buy a boy a gun and turn him loose without thorough training in its use.

I do not know of a single accident in any of these clubs, or of any of their graduates shooting anyone in the field under any circumstances. It is also a rare thing to find them in trouble with the police on any count. In short these clubs teach sportsmanship, build character and give the boys the necessary training to save their own lives if the need arises. I have scored hundreds of targets shot in these clubs by boys of 12 to 14 years of age, and I'll go on record as stating that I don't want them shooting at me even on a moonlight night.

This is not a thesis on the military tactics of the High Command, but a straight-out talk to the "Pop's" of our country as to what their sons may have to face. Here is how one Dad met it.

The famed rifle shot, Virgil Richards, and I, were standing in old Winchester Headquarters at Camp Perry one afternoon. A tall, fine-looking gentleman with a friendly smile came in with a tow-headed youngster.

He greeted us and said, "Virgil I want you to come down to my place for a week and start my boy right in this shooting business."

It was done. As the years passed the boy's name kept bobbing up in the big shooting matches. Came the war and he went to the Pacific with the Marines, where he started out to win the war single-handed by cleaning out a Jap pillbox and killing fifteen of the enemy. His total for the war was fantastic. This tow-headed kid was Marine Major Henry Adams Jr., our much-decorated hero, who may be found on any firing line today. Hank can tell you what that training meant in staying alive. A wise Dad gave America another brilliant son and kept him alive to train others. Henry's Dad gave him a break. How about you?

. . . *The End*



Shooting Technique

By Thomas A. Forbes

PART I

Preparation Continued

Now the Old Archer, of whom we have made use to describe beginners' equipment, may in fact be anywhere from sixteen to seventy years of age. Archery is an acquired skill and is enjoyed by every age group; youth, alone, is not a prerequisite for an expert. Some of the high scores are shot by men who have passed the half century mark, and it is not unusual to see several oldsters well up at the head of the line at any tournament.

Perhaps the reader aspires to use a bow in the hunting field. A hunting bow will draw from 45 to 80 pounds and would only serve as a handicap to the beginner in learning to shoot. If you are a rifleman, in all probability you learned how to shoot with a moderate priced single-shot .22. Your prized deer rifle was a later acquisition. A similar situation exists in bows. The hunting bow is a special weapon and like the big game rifle has a limited use.

Remember: most target bows for men are 45 pounds drawing weight or less. The ladies rarely draw a bow weighing more than thirty pounds. A beginner is advised not to attempt to use these drawing weights in learning to shoot. A rough guide for determining a bow of suitable weight to use on your first attempt at archery is: Youngsters up to ten years old, fifteen pounds; ten to sixteen years of age, twenty to twenty-five pounds; over sixteen years of age, twenty-five to thirty pounds.

We will assume that the beginner does not have club facilities available where he can practice when no tournaments are in progress. Therefore his target should be placed in an area where the grass can be kept short, especially for a distance of at least fifty feet behind the target and immediately in front of it. An arrow which misses the target is easily lost as it will slide along the turf and be covered throughout its entire length even though the grass is short.

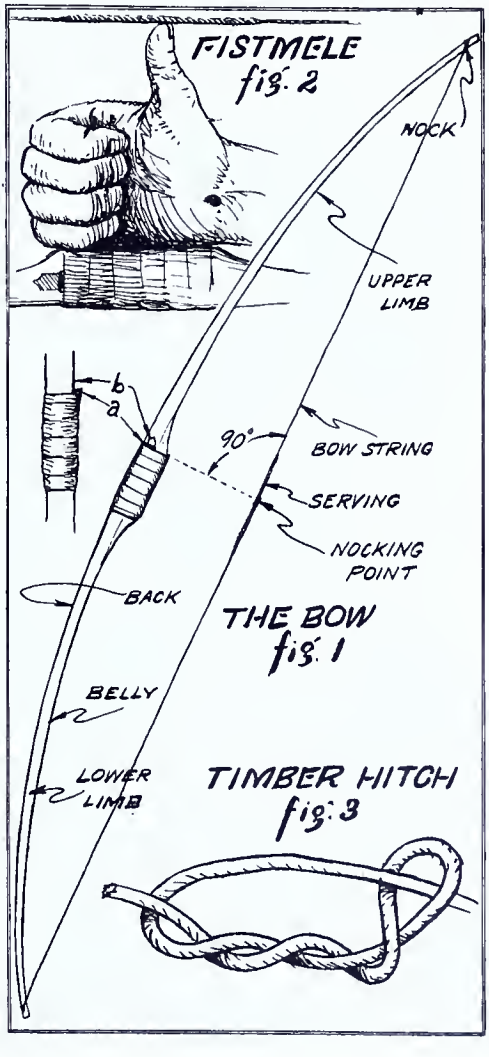
With the target in position step off about twenty paces and establish this point as the shooting line. Fix the ground quiver in the turf at this point and place six arrows in the metal ring provided for the purpose with their points resting on the turf. An archer handles his arrows with extreme care so that they will fly true to the mark. Damaged or damp feathers, crooked shafts, and foreign material sticking to the arrow will prevent accurate shooting. A wool tassel, Fig. IV, to wipe moisture and dirt from your arrows should be carried on the range. It can be made from materials generally available in the home. Ask the lady of the house for the remnants of wool yarn left over from her knitting and an empty thread spool of a size that held two hundred yards of number sixty thread. In addition secure a piece of venetian blind cord approximately fourteen inches in length and you have the materials necessary to assemble the tassel. Form a loop by inserting the ends of the cord through the spool and knotting them securely. Cut the strands of yarn into eighteen inch lengths so that the finished tassel will be approximately nine inches long. Lay the middle

points of the strands of yarn on top of the spool and with an extra piece of yarn bind the yarn to the spool and again bind tightly just below the spool. You now have a tassel that you can hang from your belt.

At this time it is well to attach the arm guard in place. If you forget you will get a sharp reminder when the first arrow is loosed from the bow.

A new bow is generally furnished with a double loop string. To string the bow, or "brace it" as the archers say, place one loop of the string over the tip of the upper limb of the bow and let it slide down the limb. The upper limb of the bow can be identified by the arrow plate, Fig. I b, which is set in the side of the limb at the grip. Place the other loop of the bow string carefully in the nock or groove of the lower limb of the bow and with the right hand slide the first loop up the upper limb until enough tension is placed on the bow string to hold the lower loop in position. Grasp the bow at the top of the grip with the left hand and hold the bow in an upright position. Place the point of the lower limb of the bow against the instep of the left foot with the back of the bow toward you. Now lean the top of the bow slightly forward and to the right, advancing your right foot about one half a pace at the same time. Keep the left elbow close to the body and holding the loop with the thumb and forefinger of your right hand encircling the tip of the bow place the heel of the right hand against the back of the bow and exert pressure. At the same time slide the right hand up the limb of the bow until the loop of the bow string enters the bow nock. Guard against pinching a finger by inadvertently getting it inside the loop. To unstring the bow exert pressure in exactly the same manner and with the thumb and forefinger of the right hand slip the loop of the bow string out of the upper bow nock and let it slide down the upper limb of the bow.

When the bow is braced, it must be checked to see that it is strung to the proper height. This is one of the musts in archery if good scores are desired. The force with which the arrow is propelled from the bow will govern its trajectory or line of flight and at full draw this force should remain constant. Consequently it will be evident that the initial tension placed in the bow when it is braced must remain constant. The amount of tension in the bow will vary with the temperature and with use. When a bow is properly braced or strung the distance between the grip and the bow string should equal



a fistmele, Fig. 2. This is the distance measured from the flat or side of the hand to the point of the extended thumb.

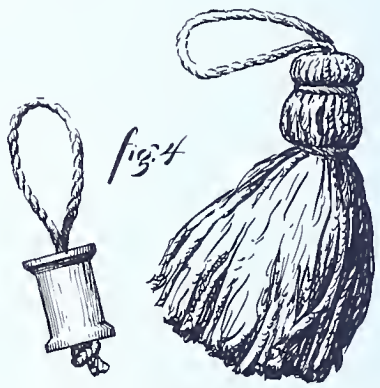
To secure the exact height when the bow is braced and a double loop bow string is used, remove one loop of the string from the bow and twist or untwist the bow string to change its length. By trial the correct height will be obtained. Make it a habit to check the height or fistmele at frequent intervals while shooting, particularly if your arrows begin to land low on the target. This is an indication that the bow string is weakening and will break shortly. A worn or frayed bow string should be changed before it breaks, as the chances of breaking a bow are increased if the bow string is allowed to break. A single loop string is sometimes used. It has the advantage that it can be used on bows of different lengths. A timber hitch, Fig. III, is used to secure the string to the bow nock and adjustments in height are made by changing the hitch.

Always unstring your bow when you have finished shooting and do not stand the bow in a corner for storage but hang it from a peg at the nocking point or lay it on a shelf.

The keeper, a short piece of elastic cord, attached to the loop of the bow string and the bow near the top nocking point is used to prevent the loop from sliding down the limb when the bow is unstrung. Experience indicates that this keeper should be removed from your bow if it comes equipped with one. If a bow breaks the keeper may cause the top limb to fly back and strike the archer.

Some bows come equipped with a built in arrow rest, Fig. I, a. While not an essential item they do insure that the arrow will always be released from the same place on the bow. They are easily installed on the bow at the base of the arrow plate by inserting a small wedge of shoe leather between the leather wrapping of the grip and the side of the bow. Apply glue to the wedge before inserting it in place.

Good bow strings are served or wrapped to prevent wear at the point the fingers are placed when drawing the bow. About four inches of the string should be served. Number eight linen thread can be used. To serve, wax a length of thread with bees wax, wrap the end under at the start and again at the finish. Draw tight and cut off the surplus with a razor blade.



A nocking point can be made on the bow string at the place where the arrow and bow string meet at the same time the string is being served. It is made by taking several turns of the serving string on each side of the place where the arrow meets the bow string, building up a small hump on the bow string on each side of the arrow.

The nocking point is located at a point on the bow string where the arrow resting on the arrow rest will form a right angle, 90 degrees, with the bow string. The point can be determined precisely by doubling a piece of shelf paper around the bow string, matching the sides, and sliding the paper along the string until one side is at the arrow rest or at the mid-point of the arrow plate if you do not have an arrow rest on your bow.

. . . *To Be Continued*



FUTURE FARMERS TO AID WILDLIFE

Commission-Sportsmen to Help

More than 12,000 Future Farmers of America in Pennsylvania will have an opportunity to improve conditions for wildlife on their farms, and more than 1,000 Keystone sportsmen's associations will have an opportunity to assist them under a cooperative program sponsored by the Department of Public Instruction and the Pennsylvania Game Commission.

This is another great milestone in the progressive road to sound conservation achievement and, as so ably put by Mr. H. C. Fetterolf, Chief of Agricultural Education for the D.P.I., "The amount of good these boys will do for wildlife through the years is not measurable, but with proper support it can be tremendous!"

The last part of Mr. Fetterolf's prediction is more of a challenge than a prophesy, especially to sportsmen's clubs. To those clubs which are active in conservation it is another worthwhile undertaking upon which to embark; for those who have no program it is a chance to get in on the ground floor. For as sure as black is black this project can be made into one of the biggest things that ever came along the pike.

An official invitation, jointly signed by Dr. Francis B. Haas, Superintendent of Public Instruction and Mr. Thomas D. Frye, Executive Director of the Pennsylvania Game Commission, has been extended to all sportsmen's clubs with emphasis on the part they can play at the local or county level. Here is the program:

GENERAL

General Program:

1. *Woodlot Management.*
   Cutting of shading trees along woodlot edges to release existing shrubs and reduce shade to crops.
2. *Wildlife in the Harvest Plans.*
   Strips of corn left unhusked.
   Protection of nests by leaving "nesting islands."
3. *Winter Feeding Program.*
   Constructing, placing, and replenishing feeders.

Carl Chess, State President of FUTURE FARMERS OF AMERICA in Pennsylvania.



4. *Shop Program.*
   Building squirrel and wood chuck nesting boxes and erecting them. Keeping records of those occupied.

5. *Water and Pond Management.*
   Planting of aquatic plants, trees, shrubs and vines around ponds.
   Fencing of ponds; plantings, aquatic or border.

6. *Fencing Wildlife Areas*
   Fencing woodlots and other areas to prevent grazing erosion, etc.

7. *Day-old Chick Program.*
   Raising day-old pheasant chicks, the chicks to be furnished by the Pennsylvania Game Commission and released at *12* weeks of age by the Game Protector. Commission specifications for wire covered holding pen facilities as to size, etc., must be met. The boys will be paid $1.00 for each healthy, well-feathered bird raised and released. To be eligible to participate in this program a Future Farmer or his parent must be a member of the Commission's Cooperative Farm Game Program, a landowner who has set aside his farm as a natural rabbit propagation farm, or one who possesses not less than 50 acres of land open to public hunting.

8. *Fur-bearing Animal Habitat.*
   Developing marsh areas for furbearers.

9. *Predator Control.*
   Controlling predators (foxes, weasels, crows, Great Horned Owls, etc.)

10. *Quail Propagation.*
    Building quail pens and raising quail furnished by the Commission on an experimental basis.

Project Competition Awards

The Game Commission at its meeting April 5, 1951 approved the Farm Youth and Wildlife Program in principle and provided a cash subsidy of $1,000 to be used as awards in its six field divisions and for a generous first and second grand state prizes.

Field Division Level: first prize $50; second prize $35; third prize $25; fourth prize $15 in each of the six divisions.

State Level: first prize $125; second prize $75.

Exhibit Prize: a prize of $50 will be awarded to the Future Farmer group which displays the best wildlife conservation exhibit at the State Farm Show in January 1952.

How To Join Up

The program will be administered and judged entirely by the Department of Public Instruction under the leadership and guidance of Mr. Fetterolf and his assistant Mr. V. A. Martin. Any club wanting to assist should get in touch with the local Vocational Agricultural Adviser. A list of these men was furnished every sportsmen's group in the state and should be in the hands of all club secretaries.

Since no provision was made for local or county awards, sportsmen are encouraged to provide these incentives. There are about 300 Future Farmers of America chapters in Pennsylvania and about 1,000 sportsmen's associations. If the project depended on numerical strength its success would be assured. But more, much more, than numerical strength is needed. The *"want* to do" and the *"will* to do" are needed.

Farmer-Sportsmen Relations

By entering into this project sportsmen's clubs will have an opportunity to meet Pennsylvania's future farmers and their dads, they will learn to understand the philosophy of these people. Farm families on the other

hand will realize that sportsmen's organizations for the most part are made up of generous, intelligent, far-sighted men who measure wildlife in terms of preservation, not destruction, and who respect, not mistreat, the landowner or his property.

One For All; All For One

So that every boy has an equal opportunity in the contest no financial, physical or material aid should be given any competitor by any chapter unless it is given to ALL.

While it is too late this year for the boys to raise day-old pheasant or quail chicks they still have a little time to add some points to their competitive scores by providing "nesting islands" for ringneck pheasants. All they need to do is to leave enough cover around these nests when they are mowing, thus affording some measure of protection while the female is incubating her eggs. For every such "island" sanctuary reported to the District Game Protector the farm youth will receive $1.00.

Well, there it is in a nut shell. If your club really wants to help push the biggest conservation ball that ever rolled over the Commonwealth get busy. It is a wonderful opportunity to secure a large material return on a small investment. It is a splendid opportunity to create good will. Do not miss the boat.

WILDLIFE PROGRAM EXPLAINED TO FLORIDA

At the invitation of the Game and Fish Committee of the Florida Legislature, Thomas D. Frye, Executive Director of the Game Commission, addressed the Florida House of Representatives on May 4. The guest speaker outlined Pennsylvania's wildlife program for the assemblymen at Tallahassee, in an endeavor to help the sister state with her wildlife program and policies.

This unusual honor can undoubtedly be attributed to the high esteem in which Pennsylvania is held by other states for progress and achievements in wildlife management.

RECORD NUMBER OF RABBITS TRAPPED

Accounts show that well over 57,000 cottontail rabbits were live-trapped in Pennsylvania last winter. The largest number previously trapped was about 40,000, taken in the winter of 1944-45.

The Game Commission's accelerated program of last winter brought in many thousands of bunnies from northern towns, from ordinance depots and other areas hitherto untapped or incompletely worked. Included in the total are cottontails taken from newly established rabbit farms.

This record catch is of particular interest to hunters, who realize that "home grown" stock released in depleted converts gives them the highest possible returns in production. Gardeners and nurserymen, too are pleased to be rid of the furred creatures, which they do not consider "cute." Persons pestered by bunnies this summer are advised to report their problem to their district game protector who will inform them on repellents and, next winter, when trapping is again feasible, will direct a commissioned agent to remove the little rascals. As cottontails have three or four broods of young between late winter and early fall it would be inhumane, even if possible, to take females from their young during this period.

Circulars dealing with the most effective rabbit repellents are available at the Game Commission's division offices, located in Oil City, Ligonier, Lock Haven, Huntingdon, Forty Fort, and Reading.



WILLARD T. JOHNS, JR.

We lost to the Army, temporarily we hope, our able and congenial editor, Willard T. Johns, Jr. In the nearly four years that he has been with the Commission "Will" has done an outstanding job with GAME NEWS *which has been reflected in a considerable increase in circulation, and a steady improvement in text and format. Both he and his services will be greatly missed. His address for awhile at least will be Lieut. Willard T. Johns, Jr., 0546493, Co. B, 86th Hv. Tk. Bn., C C "B" 3rd Armed, Div., Fort Knox, Kentucky. The army is no new adventure for "Will" as he received his bar during World War II while serving as a battalion staff officer in the Pacific. We wish him the best in army life until he rejoins the Commission.*



E. STANLEY SMITH

It is always good to have an ace in the hole. In "Ned" Smith, our versatile artist, we have a personable and able young man with, lucky for us, enough editorial and printing know-how to pick up the reins during Editor John's absence. All of us are familiar with the amazing dexterity of his pen and brush, and while his position of Acting Editor will impose additional responsibilities on him, we are confident he will measure up to his emergency assignment. His job is going to be a tough one, but he has our confidence and our good wishes.

Game Law Prosecutions And Penalties Decline In 1950

With its records almost completely cleared of delayed settlements, the Game Commission gives this account of apprehensions made and fines paid for game law violations committed in Pennsylvania during the last three months of 1950.

October .....Prosecutions— 407.....Penalties—$13,951.75
November .....Prosecutions—1729.....Penalties—$45,597.50
December .....Prosecutions— 910.....Penalties—$37,564.31

Over the entire year 1950, game law prosecutions in the Commonwealth totaled 4678 and fines collected aggregated $149,258.16. In 1949, prosecutions were 5838 and fines collected and deposited in the Game Fund amounted to $190,386.35.



ROBERT D. McDOWELL

In the past fifteen years we came to regard "Bob" McDowell as a permanent fixture on the Commission's administrative staff. It was with considerable surprise and regret that we were informed of his voluntary resignation effective May 31st, until we learned the reason. Then we had to commend him for the courage and ambition which influenced him to enroll in Pennsylvania State College to add to his storehouse of knowledge of wildlife management. Still a young man, Bob has a truly bright future ahead of him and we wish him all the luck in the world. During his service with the Commission he held various research positions and was Acting Chief, then Chief of the Division of Research, the position he held when he resigned.

Editor's Note: Due to an unexpected shortage of materials the June GAME NEWS was mailed several weeks late. There is a possibility that this delay might be repeated with the next few issues, and your forbearance is requested.

The PLOWLINES, DIANA DOINGS and TRAPS TO WRAPS columns, omitted in the July issue, will appear as usual next month.

THREE TAXIDERMY EXAMINEES QUALIFY

The following three men, examined at Harrisburg June 6, qualified under the Game Law to practice taxidermy for profit in Pennsylvania:

Albert Smith, Star Route, Hawley, Pa., James A. Egolf, R. D. No. 2, Boyertown, Pa., Richard L. Ripple, R. D. No. 1, Central City, Pa.

Examining board members that judged the competence of the applicants were:

Harold T. Green, Chairman, Curator of Museum Exhibits, The Academy of Natural Sciences, Philadelphia; M. J. Kelly, Everhart Museum, Scranton and James Kosinski, Carnegie Museum, Pittsburgh.

STOLEN GUN

W. J. Rinebold, of New Albany, is seeking information on the whereabouts of a high-power rifle stolen from his home this past spring. The gun is a .32 cal. Remington slide-action repeater, fitted with a flat-topped rear sight and a gold bead front sight.

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HOSPITALIZED

Game Protector Mark P. Motter, whose residence is 3608 Centerfield Road, Colonial Gardens, Harrisburg, suffered a mild heart attack at The Ross Leffler School of Conservation on June 3. He entered the Brookville Hospital, Brookville, Pa. the following day and has been there since that time. Mark had a serious seizure at the hospital on June 6. He is now reported to be making satisfactory progress.

"Pokey" proudly displays the cards he has received from his friends. Let's make this grand guy's pile of cards and letters ceiling-high and boost his morale to the same elevation.



Year 'Round Killers

Dear Sir:

I have just finished reading the March issue of GAME NEWS. I must say that it is a pity that it isn't printed in a greater number of pages.

I was particularly interested in your article entitled "Killer Dogs." I agree with the author that sportsmen don't know what's going on, because nothing is published about it. I have witnessed a number of killings and chases done by dogs to helpless forms of wildlife, and it just plain burns me up. I have seem two large dogs, of the mongrel German shepherd type, chase a full grown rabbit and run it down. They took it over to a nearby fence and proceeded to feast on it with me in full view. If I would have had a gun with me, believe me I would have shot both of them. Incidentally, their home was not more than 200 feet away. I wouldn't call it their home, though, because they are seldom there and I have often seen them chasing rabbits and other forms of wildlife throughout this area. I have made up my mind to lay these dogs in their tracks, forgetting any respects as to them being pets. I look at it this way, if owners neglect their dogs as these are neglected, the owners should be prosecuted for harboring killers of this sort, and the dogs should not be allowed to roam around killing untold numbers of our valuable wildlife.

I believe that if foxes were protected 100 percent and all stray cats and dogs were killed, we would have more game than could possibly be realized.

Cats are just as bad as dogs if not more so. I have seem many of them afield. Since we have been living on this farm for the last ten years, I can truthfully say that we have killed at least 100 or more cats. These cats roam around from farm to farm, living in barns and sheds at times. Most of the time they are pursuing wildlife. I have seen cats eat wildlife in our barn with rats lying nearby and they seem to get as much fun out of catching rabbits and pheasants as hunters do. Now don't jump to the conclusion that I am trying to say that cats don't catch rats and mice. They do catch some, but not enough to be considered beneficial.

Along the dirt road from our place to the highway we often saw at least five or more cottontails several years ago, but now with the increase of stray dogs and cats, we rarely see even one rabbit. Practically every day or so we can see a stray cat or dog roaming the fences and woods. In my opinion I think that there should be a law stating that all cats and dogs be licensed and tied or kept in a fence or other enclosure. Those left loose should be shot and the owners prosecuted.

The GAME NEWS has done an excellent job informing the sportsmen of Penna. about the activities of the Game Commission, laws, and many interesting facts concerning Penna. wildlife, but little has been done about stray dog and cat control. I hope I have started something with this letter.

As ever,
Johnnie Mittl
R. D. No. 1
Kutztown, Pa.

Aussie Rabbits

Gentlemen:

I am going to write you on a few things which have come to my attention at various times. Some of these matters may have been brought to your attention before.

The other day I happened to read an article in *Readers' Digest,* which dealt with rabbits being a plague in Australia. In reading the article, I was prone to wonder if the Australian rabbits were any different than our rabbits, and if they are, maybe they would do as well in Pennsylvania. If they are a larger rabbit similar to those in the west, the hunters might take to those and ease up on the cottontails a little.

Sometimes I think that deer hunters wear red in the wrong places —myself included. I was standing on a runway one day a few years ago and while I was standing there a crackling noise came to my ears, but all that I saw was tan looking legs. Now, if I had a good imagination I could have put a pair of antlers on those legs, and no doubt a hunter would have bit the dust. But as it was I waited and I finally saw the red cap and coat coming through the heavy brush. So I was wondering if red boots or red trouser bottoms wouldn't help along the line of preventing accidents? I know there is not much can be done in the way of the itch of wanting to hear the gun crack, especially after you have stood for a couple hours in one spot.

Would appreciate having your views.

Very truly yours,
Benjamin F. Walters,
422 Leverington Ave.,
Philadelphia, Pa.



By Herbert Kendrick

Buying A Dog

MANY many sportsmen do not have the time to develop a young puppy into a finished gun dog, therefore it is necessary for them to purchase a mature dog that is already trained for the field. This process is filled with about as many hazards as rearing the pup, because unfortunately some kennels and dog dealers are dishonest. Perhaps they are no worse than any other class of men who buy and sell live animals.

In all the field magazines many dogs are advertised for sale by publishing a picture and stating the great qualifications, and quite often the faults are omitted. To me it has always seemed that dogs are not adapted to mail-order business, so it is far better to visit the kennel to purchase a desired animal. First, decide the breed and sex of dog you desire, then check with dependable dog men and have them recommend the proper seller. Next, write to him stating your needs, and if he has a dog that he feels will suit you, by all means, make the trip to the home of the dog and have the handler take him into the field where you are able to judge for yourself the dog's pace, nose, style, endurance and ability. There you will see him operate under normal conditions where he is unaffected and unafraid. If you are not satisfied with the performance and the dog owner has no others to offer then repeat the process

at some other place. It will be worth your time and money to be sure. However, if the action of the dog is acceptable to you, buy him and take him home, but be certain you have made a friend of him before going afield. He may leave you or he may refuse to work for you. This does not mean you have made a mistake in the dog. It is perfectly natural for him to miss his former master, yet if treated kindly and friendly it is amazing how well adapted he will become in a short time.

If it is an impossibility to visit the kennel when you buy, and you are dead set on ordering a dog, call the owner by telephone, clearly stating your choice, and be sure to know you are understood. Then have him write you a concise description of the dog, his work in the field, and send a recent photograph along with a copy of his pedigree. Insist on the dog being sent on a ten-day trial basis. In other words, place the money in the hands of the express agency when the dog is received, keep him a few days, give him a thorough but fair workout, and if you are satisfied instruct the express agent to send the money to your seller. If the dog has been misrepresented, then you have a right to return him and your money is refunded. If this be the case your only loss is the charge of shipment.

Buying a puppy is a much more simple transaction. Here you select the very best breeding you find offered—close your eyes and hope for the best. If you can visit the kennel to select the puppy you will select the healthiest looking one who warms up to you at once. Picking the best of a litter is often more luck than judgment and skill. Too often we find the sickly, ugly runt of a litter turns out to be in the superlative class.

When my home was in Carolina I wanted a thoroughly trained grouse dog and after selecting a man who owned several I made the long five hundred mile trip to see the dog work. We went into the grouse woods and I saw a beautiful performance. Needless to say, I took the setter back with me. After a week we took to the woods and the dog was a whiz until I became tired of the thick brush and sought out a path. When the dog saw me walking the path she did likewise, and nothing I could do would make her hunt the cover while I walked the easy road. When I would set foot into the cover she would cast beautifully. I wrote her former owner and he was determined to do nothing about it. However, under the threat of exposing him in a sporting magazine he did replace her with a fair grouse dog.

Only one other time was I tricked by a dog salesman. I bought a setter that kept every neighbor awake all hours of the night with the most pitiful cries you ever heard, and the owner had sworn he was very quiet at night.

With these two exceptions I have found many good friends and wonderful sportsmen who earn their living by selling gun dogs. I know of cases where they have lost money to satisfy a client. There are many who are careful enough that they refuse to sell a dog unless they know the buyer and are satisfied the dog will have a good home.

When buying a dog please don't expect a thousand dollar dog for a hundred. If your tastes run high in hunting stock, it will have to be matched by your billfold. In gun dogs, as in every other field, you get only that for which you pay.

Be careful of whom you buy your dog. If you buy from the reliable you help him and help yourself, and also aid in eliminating the unreliable ones.

. . . *The End.*

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10 CENTS



THE STORY BEHIND THE COVER

What does a road-killed rabbit mean to *you?* In itself it isn't much. The dollar-and-cents value of a single rabbit is very little, and compared to the annual bag of cottontails, the elimination of one rabbit would not make a noticeable dent in the population.

But what the average person fails to take into consideration is the scope and intensity of this perpetual highway slaughter. Although certain seasons of the year exact a greater toll than others, road kills of wildlife are with us twelve months of the year. Gunners are permitted to shoot rabbits for one month only; autos reap their harvest from January to December.

The average person sees comparatively few of these victims. Men like District Game Protector C. R. Kinley, New Kensington, (shown on the cover) have jobs that require them to note the trend in wildlife kills, and these Commission employees are fully aware of the gravity of the situation. However, the best-informed observers are the highway workers who, day after day, remove the bodies of birds and animals from the thoroughfares under their care. These men are in a position to *know* the extent of this carnage.

Recently, highway workers in a seven-county district released an accurate record of highway kills in their area. In one year 20,081 wild animals and game birds lost their lives in this small district, only one tenth the size of the State.

Of the above total 11,727 were rabbits. How many future generations of cottontails were lost by this slaughter of breeding stock is anyone's guess, but, in view of the fact that a mature female produces several large litters each year, the loss must have been extremely high. How many infant cottontails starved to death in their nests—their mothers victims of careless driving—nobody knows. Few care to even think about it.

In this same area autos claimed the lives of 142 deer in one year—deer that should have furnished hunters with sport and food. Grouse, ringnecks, 'coons, squirrels and practically all other game and fur-bearing species were represented in the report.

Naturally, some road kills are unavoidable: no one can anticipate the sudden appearance of a panic-stricken animal in front of his car. But the undeniable point is that the majority of these wild creatures were slaughtered through carelessness or irresponsibility.

Drive more slowly, particularly at night. Be alert! Don't let a frightened animal take you by surprise. Get on that brake and make an honest effort to avoid running down that rabbit or ringneck. Hunting with an automobile can hardly be called a sporting proposition, so spare those highway wanderers—they'll make life really interesting for you this fall.

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Are You Getting Your Money's Worth?

Are you getting as much as you think you should in return for the hunter's license you buy? Maybe you aren't if you measure your return ONLY in your game bag. But don't forget that the size of your game bag is governed by your hunting know-how, where you hunt and your ability to shoot straight. But even if you bag only a couple rabbits or a pheasant during a season you will be getting the cash equivalent of your license fee.

And you certainly should take into consideration the healthful outdoor recreation you derive from your days afield. You couldn't purchase that for any amount of money anywhere. And how about the companionship you enjoy with old buddies, and the happy recollections you have in later years when you fondly look over your various trophies or recall unusual incidents?

Did you ever stop to think how many times, as a member or guest of a sportsmen's club, you enjoy the wildlife motion pictures and other educational programs which your license fee helped to provide; or the many other groups, including the Scouts and school kiddies who were encouraged to protect and preserve wild creatures because of those same pictures, or lecturers, or exhibits—ALL financed by money you paid for a license?

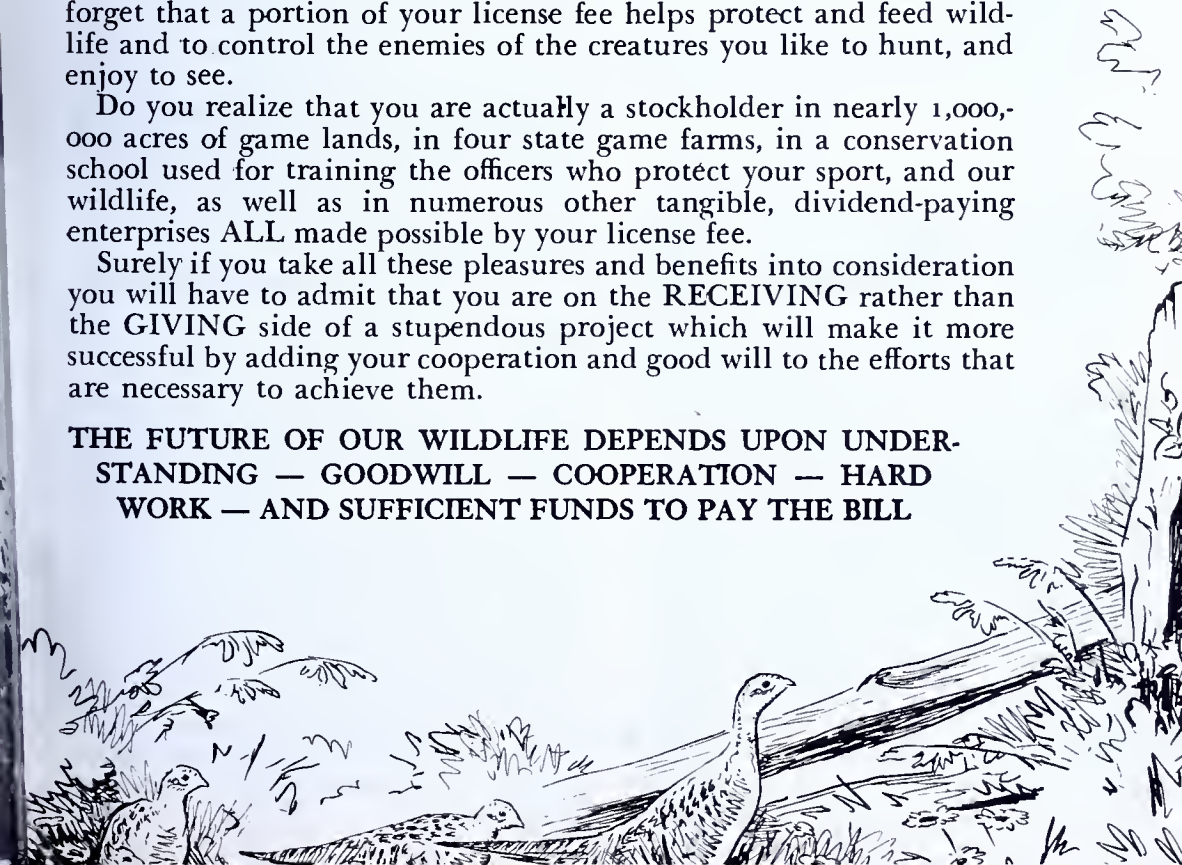
Don't you ever think how much your contribution helps gladden the hearts and pacify the minds of the thousands of people who thrill just at the sight of a wild bird or animal and who seek solace and comfort in simple communion with Mother Nature and her wilderness children?

Aren't you happy knowing that you are helping safeguard a great natural heritage for YOUR children and THEIR children? Don't forget that a portion of your license fee helps protect and feed wildlife and to control the enemies of the creatures you like to hunt, and enjoy to see.

Do you realize that you are actually a stockholder in nearly 1,000,000 acres of game lands, in four state game farms, in a conservation school used for training the officers who protect your sport, and our wildlife, as well as in numerous other tangible, dividend-paying enterprises ALL made possible by your license fee.

Surely if you take all these pleasures and benefits into consideration you will have to admit that you are on the RECEIVING rather than the GIVING side of a stupendous project which will make it more successful by adding your cooperation and good will to the efforts that are necessary to achieve them.

THE FUTURE OF OUR WILDLIFE DEPENDS UPON UNDERSTANDING — GOODWILL — COOPERATION — HARD WORK — AND SUFFICIENT FUNDS TO PAY THE BILL





Conservation education is the daily practice in the right use of natural resources, rather than just reading about them.

The Human Factor in Conservation

By N. R. Casillo

IT IS doubtful if primitive men ever gave a conscious thought to the possibility that there might some day be a scarcity of those animals which furnished them with food and clothing. Indeed, they were so outnumbered by all manner of wild beasts as to make a positive declaration on that point sound ridiculous. They were not even hunters in the true sense of the word, since most of the time they themselves were hunted. But, they had to eat, so when the opportunity presented itself they somehow managed to bring down one of the less dangerous beasts, usually grass eaters.

After men learned to live together and began pooling their forces against the truly formidable carnivores which were contemporary with the earliest men, they emerged from their caves and took up a nomadic manner of living. Without their being aware of it they had taken the first step toward the practice of

conservation. Obviously, they seldom remained in one place long enough to completely deplete its animal life.

The nomadic tendencies of the American Indian had a salubrious effect on wildlife, although the impression that the Indian killed no more than he needed is far from the truth. The Indian was an opportunist. When favored by good fortune he fared sumptuously; in hard times he all but starved.

For more than a million and a half years man had a background of the hunter. He had to hunt in order to live. To accomplish his purpose he had to kill. In fact, the most highly respected members of the tribe, clan or community were the most efficient and consistent killers. Skillful hunters were the best providers, so we find that most women favored them. It was nature's way to make certain that the family survived. Since a contented family life is considered the very core of civilization and progress, you can readily understand the importance of the family breadwinner.

Man comes honestly by his killing proclivities. To repeat, he had to kill in order to eat. With countless generations of his forebears doing exactly that, is it any wonder that man comes into the world imbued with this primordial instinct. In their formative years, say, between the ages of four and nine, many male children are cruel to an extreme unless wise parents curb the instinct at an early age or better still, direct it into the proper channels. Naturally, it is frequently difficult to differentiate between cruelty and abject irresponsibility. Anyway, the instinct, a remnant of an avatistic past, often persists until a child acquires the inhibitions imposed upon him by a civilized society.

After questioning thousands of school children and Boy Scouts over a period of a quarter of a century, it was rare indeed, when one didn't admit killing birds and small mammals for no reason at all or because they found it to be fun.

When the instinct is sublimated and modified and directed into the proper channels it really motivates the accomplishment of much good in the teaching of the wise use of our natural resources.

Two of the most active civic leaders and ardent champions of conservation that we know of were at one time apprehended with the legs of thirty-nine songbirds which they had shot in the course of one afternoon. Like so many scalps the legs of their victims dangled from belts to which they had been fastened. Untutored by their parents they promptly answered the call of the wild just as any red blooded boy would have done. As paradoxically as it may seem, it was their love for the out-of-doors that prompted them to commit what to others was a dastardly deed.

No number of laws would have stopped those boys from doing what they did. Later, they were asked if they at any time suffered any remorse. "Only when we got caught," they admitted.

For years we have punished violators and in a small way stemmed the flood of deliberate infractions as well as those committed through sheer ignorance. The problem as we see it is not one of correction, but of education. And the educative process should reach every one, adults and children of both sexes.

Nothing seems more futile than trying to explain the intricacies of conservation to a group that does not have a knowledge of the barest fundamentals. Unless every individual in an audience is made aware of his or her importance in the conservation picture, then, the objective which we seek is still in the distant future.

We have heard experts on the

subject go into long and vivid descriptions of the dire consequences if the precepts of good conservation practices are not adhered to. In one case an internationally famous authority harangued to a stunned audience about the terrible after-effects on a ravaged planet. For some minutes after he had finished, my reactions were like those of the rest of the assemblage, a complete and utter helplessness in the face of unsurmountable odds.

However, the expert's efforts bore some fruit; his talk reaching a few thoughtful individuals who decided to do something about it. They promptly put their shoulders to the wheel to help spread the gospel of conservation. How? By talking about it at every opportunity; by increasing their interest in legislative measures designed to further the cause within their county and state; by actively participating in youth activities; by being better neighbors and citizens.

Yet, the picture presented by that distinguished speaker was well nigh unbelievable in the face of the smug and comfortable circumstances of most of his listeners. There they were ensconced in comfortable and even luxurious homes, many owned one or more cars while all of them were assured of three square meals a day despite the high food prices. Yet, this man spoke of exhausted soil, foul water, no water, starvation, thirst and even death. To be sure, it was death in a distant land, but death nevertheless. Some resolved on the spot to increase their contributions for foreign relief while others, after recovering from the initial shock, just shoved it aside as something that did not concern them. How could it? As one apparently intelligent woman put it, "And I thought all the while that conservation was something that had to do with trees."

An impressive speaker with an important and timely message doubtlessly reaches most of his listeners, but all too often the message does not stick because it is projected in a speech. Speakers before service clubs are especially handicapped because the meetings feature weekly speakers. The glut of speakers tends to blunt the listeners' receptiveness to even those who may have a vital and timely message. Again, however, no opportunity should be lost by the adherents of conservation to help further their objective. Even if only one individual in an audience is reached the effort may be considered worthwhile. Persons so reached often become the most zealous proponents for the cause in their respective communities.

Why is the sportsman invariably dragged into the conservation picture? Be it forestry, soil technology, stream pollution or the 1001 other phases of the subject that may be under discussion, sooner or later the sportsman and the role he plays in the overall or particular situation inevitably comes up. The general belief is that hunters, fishermen and other devotees of the outdoors are inseparably bound to the doctrine of the wise use of our resources. We have every reason to be proud of that trust.

Since the instinct to hunt and fish is so deeply ingrained in man, he has of necessity exercised it; at first to furnish him with those things necessary to maintain life and then as an expression prompted by an impulse difficult to thrust aside. Modern sport hunting is simply a manifestation of man's virile past. It not only proves his mastery over the lesser creatures, but also reveals him as their most devoted champion. What is more, it keeps him in touch with the elemental things so necessary for a normal life.

Man's capacity for outdoor pursuits has resulted in the development of many related interests. It is doubtful if primitive man ever admired



Photo by Hal Harrison

Hunters, fishermen and other devotees of the outdoors are inserapably bound to the doctrine of the wise use of our resources.

or even saw the beauty of an animal or a tree or even a colorful flower; the sense of the esthetic developing long after his love of the chase was well entrenched. These so-called intangibles which a modern sportsman prizes so highly were recognized as such only after a long evolutionary process.

Now, we cherish the symmetry of a tree, the cool recesses of the noonday forest, the tumbling waters of a mountain stream—yes, even the sagacity of our quarry. Because of their keen perception and appreciation developed by understanding, sportsmen have come to value these adjuncts in many cases more highly than the mere bagging of game.

Those of us who are more elemental still insist that the epitome of the chase is the bringing home of the bacon. Here, we are but satisfying another primitive emotion, that of approval by our fellows in being able to outwit our game. Who doesn't admire an expert woodsman or a good shot?

Since the outdoorsman realizes more than any one else that the wasteful exploitation of our natural resources spells doom to his sport, is it any wonder that he tries to spread the doctrine of wise use? To those who are not conversant with the charm of the outdoors this seems paradoxical. But, if you have trod the pine and moss carpet of a coniferous forest or slaked your thirst at a crystal spring amidst a bower of dank ferns or seen the sun rise from the early morning mists as you watched from the vantage point of a mountain top, then, in a measure you will understand what to the average individual seems so absurd. The pity of it all is that there are so few so close to these elemental things.

As was indicated earlier in this piece, the open sesame to the solution of the conservation problem is education; education from the

ground up. All that has been accomplished to date is to acquaint the key figures with the necessity for it. The talks as well as the endless books and countless reams written about the need have finally reached those in high places. Conservation has begun to be more than a mere word. Many already realize that it is synonomous with man's continued existence here on earth.

For more than a quarter of a century we have insisted that it should be taught as a definite subject or at least as an adjunct to the regular courses of studies in both the elementary and secondary schools. Indeed, for top effectiveness it should be taught intensively in the first four or five grades so that the child will become literally impregnated with its importance. By so doing the child would become as conversant with it as he is with the three R's. Is it too much to ask for something so important?

School boards and curriculum experts are at long last seeing the light. They have finally decided to do something about those things upon which our living depends. They see now that a child needs something more than the knowledge of how to make a living.

The human factor in conservation has been ignored altogether too long. You can't change the leopard's spots overnight. Neither is it possible to change the elemental forces with which man has been endowed with threats of destruction. It must be accomplished by an educative process; a process whose concepts must become second nature.

It is no longer a question of coming out of the wilderness and being cultured and educated so as to better cope with the ways of man. We are no longer fighting nature as we did in pioneer times. It is now high time to cooperate with her.

Teaching conservation throughout the school life of the child would not only be more effective, but incomparably more economical. The educative process is essentially one of retention of subject matter designed to serve the individual throughout life. One can readily perceive how the teaching of the wise use of our resources would fit into the picture.

To attain this end New York state reports that from now on all students attending the eleven state teachers' colleges will be required to take training in conservation education. Legislative leaders in other states are introducing measures which will make the teaching of conservation mandatory in all public schools.

In conclusion, lest we fail to understand the universal and immediate applications of conservation, let us enumerate what kindly and wise old Captain Billy Vinal had to say about it.

"Conservation is living wisely and in fairness to all, who, no matter where they live, are dependent upon natural resources.

Conservation includes such things as forest-fire prevention, obeying fish and game laws, planting trees, raising vegetables and farm crops.

It means toughness, rugged living, readiness for disaster and emergency—how to deal with injurious insects, reptiles, poisonous plants.

Conservation means self-sufficiency out of doors, cooking, shelter, homemade beds, first aid, weather predictions, forest recreation, nature hobbies.

Conservation education is the daily practice in the right use of natural resources, rather than just reading about them. This involves such things as soil, crops, trees, landscapes, flowers, etc.

Conservation means right attitudes and appreciation, as well as knowledge about things. It is a philosophy of life—a way of living. The American way of life."

. . . *The End*

Sporting Chuck

By Dr. Henry M. Stebbins



PGC photo by Cady

IT was just closing time when the phone on my desk sounded call to quarters.

"Modern Home Insulation Company; Jack Hale speaking."

"Jack! This is Jim." Jim Clark, my brother-in-law, sounded anxious. "Can you come over to the house right away? Chuck's had a little trouble. Nobody hurt, but it's about a gun."

Well, I thought, as I hurried along, it's happened; if a kid has the fever he'll get hold of a gun. I remembered how, back before the war, Jim and I had laid plans for "taking Chuck along as soon as he was big enough," and here it was, 1950, and Chuck a tall, slim fellow of fourteen, not too rugged, not really one of the gang as a kid should be. Our plans hadn't hatched, and Chuck was a lad who needed his father as pal more than most do. Trips Jim and I had had afield in high school and later prewar years became just timber for a fireside talk. Jim never noticed how still the boy would sit, listening, wistful, knowing well "how busy Dad was now."

Maybe Jim needed Chuck, if he'd known it. During his four years in the Navy his laundry and dry cleaning business, run by deputy, had gone to pot, and now that it was doing nicely, success seemed to be as absorbing as the rough times of rebuilding had been. Helen had discussed this with me, and I, too, felt that a father should be first to introduce a youngster to his outdoorsman's heritage.

As he opened the door to me Jim looked old, for the first time in his life. That jolts you, in fellows you've grown up with.

I heard my sister, Helen, in the kitchen.

"Chuck's out back," she said. "Dinner'll be ready in about fifteen minutes—suit you?"

Jim obviously had such a load on his chest that we went directly to the living room, where he slumped down heavily in his chair by the radio. I offered a smoke.

"No, thanks," he said. "Let me tell you about this thing."

"Sure," I tagged along. "I want to know."

"Around four this afternoon I got a call from Chief Nickerson at police headquarters. Chuck was there, and the Chief wanted to talk to us both. You don't ignore summons like that, not when Chuck's involved, I mean."

"Of course not," I agreed.

"He and Harry Wilde—you know that kid's name somehow fits him—and Frank Waterman were in the Chief's office, and an old-time .22 rifle,

pretty beat-up, lay on the desk. The kids had no hunting licenses, you know. I was only thankful nobody'd got hurt."

"And how! Those things happen in a second."

"It was bad enough. Max Carter—you know him, just outside of town, across the river bridge—heard a bullet squeal over his barn, and with the kids in plain sight in his night pasture he ups and calls the police."

"How did Nickerman act."

"Fine! He was really darn decent. Some things he said were straight to my address, and they hurt. But even then I knew they ought to."

"Responsibility as a parent, you mean—things like that?"

"Yes, and responsibility with a gun, too. Things anybody like you and me, who always hunted a lot, were wise to, anyway."

"Maybe you've forgotten a little," I suggested. "Since you got out of the Service you've hardly cracked a primer. Haven't even gone fishing, have you? Sure, I realize how you've worked, but there's a happy medium."

"Dinner's ready!" sang out Helen, and we sat down to a meal that was a little constrained in spite of all her efforts, and my clumsy attempts, to get the smog out of the air. Chuck looked rather white, as if ashamed of what hadn't been his fault at all.

Afterwards, we went to the attic room where Jim's old outdoor gear was stored. Above the gunrack a row of pegs held three or four Kraut pistols, a little old .22 Colt target revolver Jim had used a lot in former days, and a .44 Smith that had ballasted his belt on mountain fishing trips. A couple of shotguns, 12 and 16, and a .30-06 rifle hung below.

Jim lifted down the .30, hefting it, and Chuck looked like a boy who sees a new cake cut at ten a. m. and wonders if the between-meals rule is going to be unlaced.

"It's pretty potent," said Jim. "We need a .22. What kind would you get?"

"One just as close to it in weight and hang as I could find, and with the same good sights, peep rear and post front. I guess, though, we want an aperture front for target, and we could all stand a lot of practice." Chuck was listening as if it were six days 'til Christmas.

"Another idea struck me as we were having dinner," Jim went on, "Why not start a kids' rifle club. We don't need all that space in the basement of the laundry and I'm sure we can get fifty feet there. We can put in floodlights, shoot at night, and along in summer I can manage an afternoon outdoors now and then. Can you and Helen take over the organizing and paper work till we get started?"

I said I was sure we could. I knew she at least would enjoy it, for she'd done a lot of P.T.A. and community work with kids and knew their ways, which I certainly didn't.

"Now, Chuck," Jim invited, "let's hear about this afternoon. Give us all the horrible details."

They were bad enough. The ricochet Max had heard wasn't the only one, and Chuck had been busy muzzle-dodging as the other boys toted the .22. The shooting had been sloppy as well as illegal. A groundhog was body-hit and crawled into



his hole to die—Chuck felt bad about that—and one they managed to anchor with a head shot proved to be a female with cubs to nurse. "That seemed kind of awful," Chuck remarked.

"Yes," said Jim soberly, referring to the female woodchuck, "May's too early. That's why the season doesn't open till July."

"It's marksmanship that counts," Jim summed it up. "Real hunting, and handling a gun safely—that makes a hunter! How about it, Chuck, want to learn to shoot a rifle?"

This tribal powwow wasn't just a pleasant breeze. Our plans went through and I must say Jim and I enjoyed it, somewhat to our surprise. The kids were appreciative, and they learned. By July we had a dozen, boys and girls, too, and they'd acquired respect for .22 potentialities and for the muzzle of any gun. Harry Wilde and Frank Waterman were in that crowd.

Chuck was one of the gang, too; he'd learned give and take, and in scores he placed usually among the first five. Right from the whistle Helen got in the groove with those kids. She was our best coach in the preliminary work—position, aiming, trigger squeeze—which has to be solid. I hadn't seen the Clark family so happy in years.

One day the four of us drove out to apologize to Max Carter for what had happened last spring, and somehow the mission ended with his offering us the use of a corner of his night pasture facing the woodlot.

Of course we'd studied plans for a proper backstop and we told again how we were teaching safe gun-handling, above all. So we acquired a summer range, and Max, when he could, would come down and look on, quietly, but never missing a trick. For some years he'd seen little of children, and the racy talk of our town kids was something new, I guess.

Out there Chuck first "went clean," a possible score of 50 he made in prone position, to the envy of all except Frank Waterman, who had punched out his possible the week before. However, it was Chuck who a little later scored the first 45 from sitting. From all this rivalry the Clarks and I got quite a kick, and amusement too. The girls' eyes, we noticed, seemed to have two distinct lighting systems, for their own and for the boys' top targets, and sound effects from squeals to sighs. Harry Wilde's often and loudly announced ambition was good for a grin—to earn a long string of bars for his sharpshooter medal, then buy an old-time zoot suit to wear it with.

One evening about this time I found Jim alone, changed into old clothes after his day's work. "Come on up to the gunroom," he suggested. It used to be "the den," and in winter "the icebox."

"Have to put some heat up here," he remarked, trying to sound casual. "We're going to use this place a lot. Plan to handload some ammunition, for one thing."

"Fine," I contributed, "and there isn't any better size of handloading than the .30-06."

"Matter of fact, I think I'll have it rebarreled to .257 Roberts," he countered. The Roberts with heavy bullets is big enough for deer if you place 'em right, and it makes a sweet 'chuck rifle with the light, fast ones.

"Sure thing! Why haven't we thought of that before?" And you'd better get a mold for a light, blunt lead bullet. The Roberts loaded easy is a better squirrel rifle than a .22.

"Say, that's an idea," he caught on, and already I could see November days ahead in the oak and beech country.

Neither of us said that a fully charged .30 can be rough on a lightly built youngster, whereas a .257, gradually worked up to groundhog or deer power, lets him go right along with no danger of developing a flinch.

One warm Sunday afternoon in early September we drove into the hills to fire our first foursome with the light squirrel loads we had put up for the Roberts. Helen had shared in this, too, squirting a flashlight into each brass case to be sure the powder level looked right. By then we were doing a good many things together.

We tried them first at fifty feet, then backed off to a good fifty paces, and the rifle laid them in well. Talking it over, comparing targets and sight settings, we lazed in the sun until Jim abruptly sat up, that dynamo look on his face. It wore tan for the first time since Navy days.

"What is it now, the shining idea?" Helen kidded him.

"Why, this. Season's open on woodchucks till the end of this month. You know those little, pointy, soft-nosed 87 grain bullets? Send 'em at 3000 feet or better and they're deadly on 'chucks—glance-proof, too, if you use common sense. It's no peewee load. Think you can learn to handle the Roberts with that stuff, in the next couple weeks or so, Chuck?"

"Gee! What do you think, Dad?"

He did. We sloped the loads up by degrees for him, and his fifty and one hundred yard targets were well in the 90's.

The sun was kind, the wind, that bane of riflemen, only a zephyr, when we took him out to Max's place for his first real hunting. He carried, almost reverently, the Roberts, Jim the binocular, I my hat. It was Chuck's show.

We worked upwind through the long night pasture, glassing the dirt around each 'chuck hole, the heavy shade under trees and stone walls.

"They aren't too hard to hunt, in open country like this," Jim was saying. "But you can't get close and it takes good shooting."

I pointed. "There's one that's plenty wily. Over against that stone wall. Good, safe place to shoot, but you'll have to fire from here, he's acting nervous."

It looked a full hundred yards, with a prone lie impossible where we stood. Chuck sat down, remembering to draw the sling a notch snugger than for prone, settled his elbows comfortable—and immediately the muzzle began to weave lovely, curved designs in the air!

Jim laid a hand on his shoulder. "Take your time—there are others. But this one, now you kill him clean or miss clean. Lower the gun and rest a little, first, then take a head shot.

When the slim muzzle rose again it settled into steadiness, then leaped high as the stiff load cracked. The groundhog dropped like a sack and Chuck jumped up and started off at a dead run. Remembering past instructions he stopped, his eye on the game, reloaded, and turned on the safety.

We walked up across the dry, frost-curled grass. I made it ninety-three good, honest, uncramped paces—hard not to squinch 'em short when a buddy has made such a shot! The light, breeze-cutting bullet had blown up in the neck, making an instant kill.

"That's your first game." Jim spoke slowly and seriously. "And you killed it like a sportsman. Sometimes it's hard to get in position for a shot like that, sometimes you just can't, but it's the only kind to make. Do you think you can remember that, Son?"

"Can I ever forget it, Dad?" He was smoothing the 'chuck's grizzled fur, half regretful, as some of us often are. "I'd like to take him home, now that I've killed him. Are 'chucks any good to eat, Dad?"

"Of course they are, and you never ate better liver, young man.

One was enough for that first trip—we're always pretty moderate—and I don't recall an early fall day when the sun struck down quite as pleasantly.

. . . *The End*



Ringing the Cash Register

By Nelson E. Slaybaugh, Comptroller

A Report on the Finances of the Game Fund During the Fiscal Year June 1, 1950 to May 31, 1951

IT hardly seems possible, but another year in the work of game conservation has ended. Figuratively, the last financial transaction was rung up on the Game Fund cash register May 31, 1951, but what was done during the year by the Commission and the splendid contributions made by the great army of sportsmen and those public spirited citizens, the farmers, who were hosts to almost one million hunters will bring a measure of happiness to countless thousands in the years that lie ahead. By the same token, if we failed to make some contribution to the over-all conservation program during

the fiscal year just ended, those who follow may charge us with lack of wisdom and initiative in preserving for posterity a wonderful heritage—the great out-of-doors and hunting as we enjoy it in America.

While it is a tradition with the Game Commission to spend the Game Fund for the purpose of accomplishing the most or best for the greatest number of people, it cannot do the impossible. The ringing up of $3.15 on the "Cash Register" in the issuing Agent's Office ($3.00 of which reaches the Game Fund) for a hunting license, in the opinion of many is all that is required to produce game in abundance. The history of game conservation in Pennsylvania disproves that impression, and with the increasing problems confronting game administrators it is more important now than ever that the sportsmen and allied interests be aggressive in sponsoring desirable programs to supplement the work of the Commission. License fees alone cannot do the job.

It is difficult, if not impossible, to set down in figures a story that will reveal the magnitude of the many diversified management programs which must be carried on today to produce a reasonable game bag and to cope with related problems. Neither do cold figures nor statistical tables disclose the hard work, or personal sacrifices of those who take part in the conservation work. Game Commission employes are not motivated entirely by the compensation received. The long hours and many days of continuous service reduces their daily salary much below that of other skilled craftsmen engaged in far less hazardous occupations, but one of the major factors in keeping them on the firing line is love of, and interest in, wildlife conservation. Game Administrators give freely of their time, and in some cases much beyond the call of duty. The eight public spirited men who serve the sportsmen of Pennsylvania as Game Commissioners receive absolutely no compensation. They give freely of their time, effort and money for the benefit of wildlife.

Our financial picture is not complicated. Therefore, for the year beginning June 1, 1950 and ending May 31, 1951, we relate the following simple story.

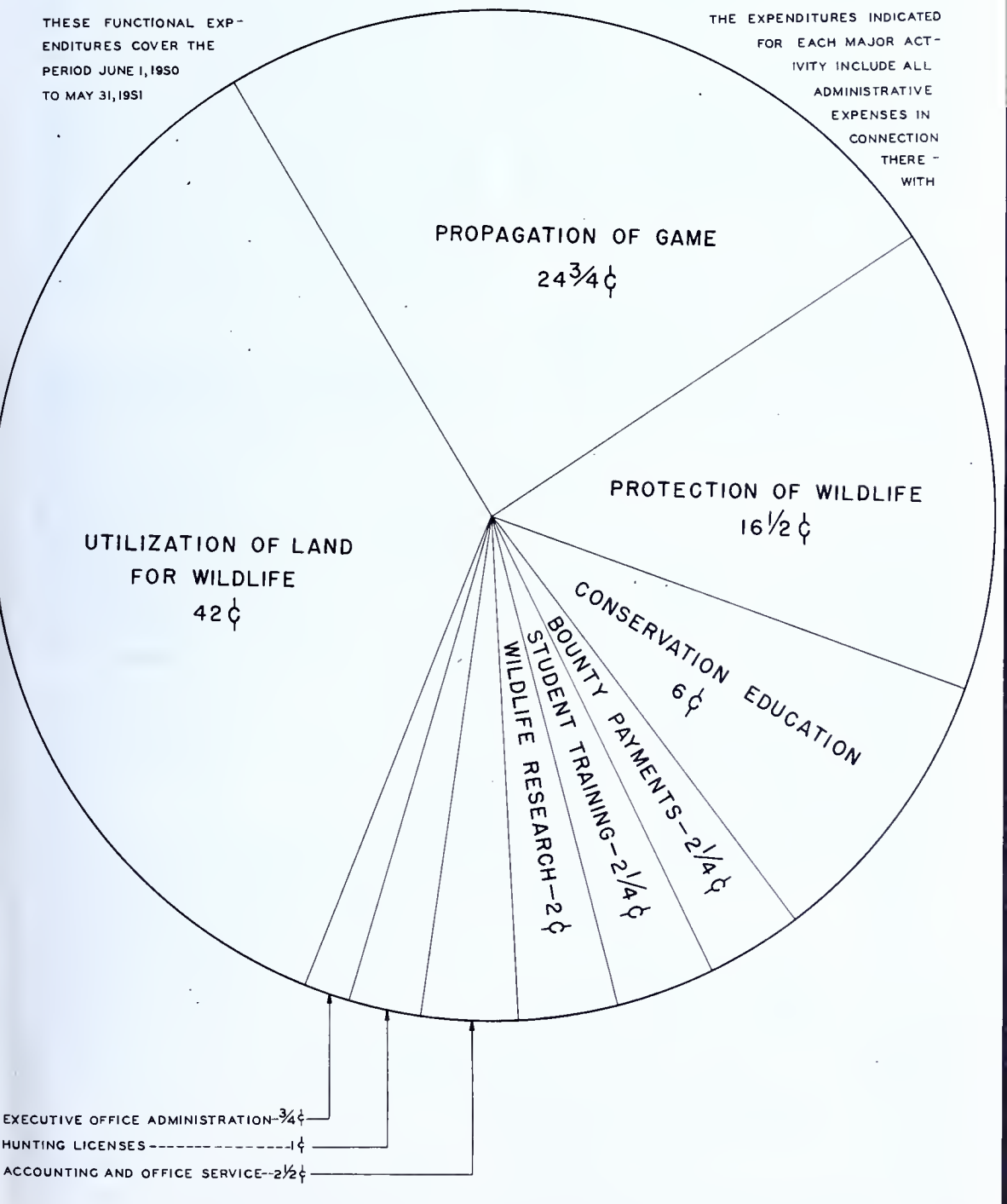
At the beginning of the year there was a Cash Balance in the State Treasury in the amount of $1,722,982.94.

Table No. 1

SUMMARIZATION OF EXPENDITURES BY FUNCTIONS FISCAL YEAR ENDING MAY 31, 1951

		Part of Dollar
Utilization of Land for Wildlife. Management of State Game Lands, Cooperative Farm-Game Projects and other leased areas totaling 1,991,118 acres. Also payments in lieu of taxes	$1,685,502.13	42¢
Propagation of Game. Operation of game farms, purchase of game, wild game transfer, distribution of game	1,000,389.70	24¾¢
Protection of Wildlife. Salaries and expenses for enforcement of game laws, assistance in enforcement of fish, dog and forest laws and numerous other field activities	668,409.17	16½¢
Conservation Education. Game News, publications, exhibits, motion pictures, radio broadcasts, attending Sportsmen's meetings, etc.	237,704.54	6¢
Bounty Payments. Bounties on noxious animals including administrative expenses relating thereto	87,004.95	2¼¢
Student and Employe Training. Training programs at the Ross Leffler School of Conservation for the Commission's officers, including school maintenance and class of Student Officers for eleven months (class enrolled May 1, 1950 and graduated April 28, 1951)	88,884.35	2¼¢
Wildlife Research. Wildlife studies to determine practical methods for developing management programs	86,161.19	2¢
Executive Office. Accounting and Office Service ($174,726.78 subdivided below):		
Accounting and Office Service. Audit of accounts and bookkeeping, personnel matters; supervision over purchases, equipment and supplies	97,371.13	2½¢
Hunting Licenses. Including tags, applications, reports	45,121.66	1¢
Executive Office. Administration. Salaries and expenses of Executive Office and expenses of Commissioners	32,233.99	¾¢
Total Expended for all Purposes	$4,028,782.81	100¢

HOW THE GAME FUND DOLLAR WAS USED



LC-51

During the year we received monies from various sources which were deposited in the Game Fund as follows:

Hunters' Licenses (after deducting the Issuing Agents' Commission)	$2,915,481.49
Game Law Fines	138,481.52
Special Game Permits (Fur Dealers, Taxidermists, Game Propagators, etc.)	17,564.00
Interest on Game Fund Deposits	15,145.36
Sale of Forest Products from Game Lands	42,749.59
Sale of Animal Skins	13,413.45
Sale of Unserviceable Property and Equipment	3,759.80
Rental from Commission-owned Buildings and Rights-of-Way	77,467.93
Sale of Publications (principally Game News subscriptions)	33,678.12
Federal Aid for Wildlife Purposes (75% of Cost of Approved Projects)	518,477.98
Miscellaneous Items	20,513.79
Total Receipts from all sources deposited in the Game Fund during the year	$3,796,733.03

With the amount on hand at the beginning of the year ($1,722,982.94) and what we deposited during the year ($3,796,733.03) there was accumulated from all sources $5,519,715.97.

During the year $4,028,782.81 of the total sum accumulated was spent for the following purposes:

Executive Office, Accounting and Office Expenses	$ 174,726.78
Research for Wildlife Improvement	86,161.19
Conservation Education	237,704.54
Training of Personnel, including Class of Students for eleven months	88,884.35
Land Utilization Operations	1,685,502.13
Propagation, Purchase and Distribution of Game	1,000,389.70
Wildlife Protection including Law Enforcement	668,409.17
Payment of Bounty Claims and Administrative Expenses Relating Thereto	87,004.95
Total	$4,028,782.81

MAY 31 CASH BALANCE

This year, as during the preceding two (2) years, all bills were paid by the Treasury Department as of May 31, 1951, thereby automatically bringing the accounts of the Commission and Treasury Department into complete agreement. Since there was accumulated $5,519,715.97 and there was spent $4,028,782.81 we came to the end of the fiscal year with a cash balance of $1,490,933.16. We are certain that the new system is serving its purpose, namely, eliminating any confusion about the true cash balance in the Game Fund at the end of the fiscal year—May 31.

Sportsmen, especially new subscribers, are often confused about the need of a large cash balance at the end of each fiscal year. They say "Why do you need a large cash balance as of May 31 each year?" "Why don't you spend it?" The explaination is simple—during the months of June, July, August and September of each year, the work must go on and be paid for as usual, but that is a very lean period for receipts. The bills to be paid during those four months are about $800,000 more than the money received for the same period, so instead of spending all the money accumulated each fiscal year, a sufficient sum must always be saved to pay the bills from June 1 to September 30. By October 1 each year the new license money starts to come in and from that time there is sufficient money received currently to finance the program undertaken to the end of the fiscal year.

The $800,000 provides only for the usual expenditures during this period but nothing for emergencies that could arise. What do you suppose would happen if the opening of the hunting season were delayed by Proclamation of the Governor due to extremely dry forest and field conditions which could result from a prolonged drought? It could easily delay the receipt of monies and develop a very serious financial situation since the Commission has no means by which it can borrow any money for any purpose at any time. These facts should make any person realize that the Commission must be both businesslike and careful in its financing.

The difference between our minimum working capital of $800,000 and the May 31, 1951 cash balance of $1,490,000, or about $690,000 consisted of unexpended budget balances and actual revenue in excess of budget estimate. Over one-half, or $350,000, of the unexpended budget balances was occasioned by budgeting funds in the 1950-1951 budget for two major projects, which were not started, and pending further consideration for future action, the funds were released for general operating expenses during the ensuing year. However, the amount in excess of that needed as the minimum working capital has been included in following year's budget to finance the expanded program.

AUDIT OF GAME FUND

Questions concerning any published report, such as "Are the figures correct?" or "Are the accounts in order?" are timely and

certainly apply to the Game Fund.

By an Act of General Assembly, the Auditor General is required to audit State Departments, Boards and Commissions. At the time this article went to press no formal audit for the period had been made. However, every bill is audited by the Auditor General before payment is made. The application of sound management and business practices employed by the Commission is further attested to in the audit reports for the six previous years, which contained no criticism or suggestions for improvement. The same high standards were maintained during the year reported herein, and it is reasonable to assume that the audit, when made and a report filed, will show that the affairs of the Commission were handled in an equally efficient manner. We try to improve our operating machinery constantly. The foregoing is the simple story of our finances for the last fiscal year.

NOW FOR THE DETAILS

Our Annual Report must satisfy not only the persons who want a quick picture but also those who desire details. It is believed the foregoing material will meet the requirements of the first group. However, for the benefit and information of the latter group, certain statements and charts are made available with this article. By looking at the chart and referring to Table No. 1, you will find in greater detail the functions for which the monies were used and the number of cents of each dollar expended that was used for each purpose.

By referring to Table No. 2, you will find the cash balances in the Treasury Department at the beginning and ending of the fiscal year, the receipts from the various sources during the year and the total funds available during the year. It also shows the various classifications of expenditures that comprise the total cost of each organizational unit as well as the total spent by all units for each classification.

STATE-WIDE FIELD OPERATIONS

The bulk of the Game Fund expenditures is spent for land utilization and wildlife protection operations, including law enforcement—all field activities. Believing there is a general interest in the field operations and the amount spent for each activity, we are giving below supporting details:

WILDLIFE PROTECTION

Game Law Enforcement on a State-wide Basis	$ 444,285.75
Proportionate Share of Field Division Office Administration	67,243.94
Various kinds of essential field services not directly chargeable to items herein set forth	40,978.07
General Administrative expenses chargeable to Wildlife Protection	29,234.80
Activities in connection with the control of predators	25,877.40
Cooperating with Conservation and Law Enforcement Officers	23,155.04
Investigating Game Damage Complaints	19,506.24
Payment to Retirement System for Employes	12,045.56
Cost of Issuing Special Permits of Various Kinds	6,082.37
Total Cost during the Fiscal Year for this purpose was	$ 668,409.17

LAND UTILIZATION

Food and Cover Projects on State-owned Lands	$ 547,659.40
Maintenance and Development of State Game Lands and Primary Refuges	304,288.67
Purchase of Land, including Title and Survey Costs	42,972.85
Development and Operating Farm-Game Projects	116,071.41
Establishing and Maintaining Farm-Game Projects	90,760.70
Protecting Farm-Game Projects	29,157.07
Proportionate Share of Field Division Office Administration	95,660.39
Conservation Development Work in Cooperation with Federal Government	38,157.57
Purchase of Equipment (trucks, tractors, graders, etc.)	84,979.33
Feeding of Game in the Wild	81,610.99
General Administrative Expenses Chargeable to Land Utilization	50,811.16
Various kinds of essential field services not directly chargeable to items herein set forth	44,701.39
Maintenance of State Game Propagation Areas	18,128.33
Waterfowl Impoundments and Resting Areas	46,950.75
Payments to Retirement System for Employes	9,085.21
Building Construction on State Game Lands	14,097.00
Establishing and Maintaining Rabbit Farms	66,834.26
Maintenance and Development of Auxiliary Game Refuges on Privately-owned Lands	2,202.92
Maintennce of Dog Training Areas	1,372.73
Total Cost during the Fiscal Year for this Purpose was	$1,685,502.13

TABLE NO. 2

PENNSYLVANIA GAME COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JUNE 1, 1950 TO MAY 31, 1951

REVENUE

Cash in State Treasury to credit of "Game Fund" June 1, 1950		$1,722,982.94
Receipts June 1, 1950 to May 31, 1951:		
Hunters' Licenses (after deducting the Issuing Agents' Commission)	$2,915,481.49	
Game Law Fines	138,481.52	
Special Game Permits (Fur Dealers, Taxidermists, Game Propagators, etc.)	17,564.00	
Interest on Deposits	15,145.36	
Sale of Forest Products from Game Lands	42,749.59	
Sale of Animal Skins	13,413.45	
Sale of Unserviceable Property and Equipment	3,759.80	
Rentals from Buildings and Land	77,467.93	
Sale of Publications	33,678.12	
Federal Aid for Wildlife Purposes (75% of cost of approved projects)	518,477.98	
Miscellaneous Items	20,513.79	
Total Receipts from All Sources		$3,796,733.03
Total Funds Available during Year		$5,519,715.97

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Exec. Office and Acct'g & Ser.	Game Propagation	Wildlife Research	Land Utilization	Wildlife Protection	Bounty Claims	Conservation School	Conservation Education	Total
Salaries	$ 83,096.00	$ 89,989.40	$ 51,491.99	$ 234,895.18	$347,586.21	$ 11,031.50	$ 41,035.78	$ 74,213.43	$ 933,339.49
Traveling Expenses of all kinds, including auto mileage	4,878.19	18,844.29	12,710.81	65,552.58	116,975.35	.....	19,183.73	17,408.25	255,553.20
Deputy Game Protectors (Wages and Expenses)	.....	.....	.....	.....	100,384.97	.....	.....	.....	100,384.97
Cooperative Farm-Game Program (Total Cost)	.....	64,253.00	.....	235,989.18	.....	.....	.....	.....	300,242.18
Wages (Land Management, etc.)	.....	.....	8,568.51	486,349.36	33,280.77	.....	.....	.....	528,198.64
Wages (Game Farms, etc.)	5,117.09	153,801.94	.....	.....	.....	516.24	10,226.77	8,737.91	178,399.95
Purchase of Game	.....	141,649.52	.....	.....	.....	.....	.....	.....	141,649.52

Rabbit Trapping and Wild Game Transfer	.....	96,119.68	.....	.....	.....	.....	.....	.....	96,119.68
Feed (for Game Farms and game in the wild)	.....	195,612.09	.....	33,006.78	.....	.....	.....	.....	228,618.87
Express and Cartage	10.45	886.92	11.63	2,457.23	1,318.69	23.97	11.22	356.02	5,076.13
Purchase of Lands (title and survey included)	.....	9,448.47	.....	42,972.85	.....	.....	.....	.....	52,421.32
Payments in Lieu of Taxes to Local Taxing Units	.....	210.09	.....	66,363.79	.....	.....	.....	.....	66,573.88
Building and Construction (mostly on Game Farms)	.....	129,429.42	.....	14,097.00	.....	.....	258.00	170.26	143,954.68
Repairs to Buildings, Grounds and Equipment by Contract	69.50	677.58	.....	2,935.34	93.71	.....	1,066.00	251.31	5,093.44
Equipment (mostly for land management and Game Farms)	6,305.54	13,058.63	.....	84,979.33	373.27	33.00	210.59	4,751.49	109,711.85
Miscellaneous Supplies	2,418.04	44,664.34	1,351.50	191,895.00	10,566.25	100.88	11,216.59	22,657.58	284,870.18
Motor Supplies	1,808.84	11,456.09	84.70	42,586.82	6,056.99	.....	839.59	1,439.89	64,272.92
Light, Power and Fuel	.....	8,196.44	.....	571.66	252.95	.....	1,514.70	1,501.27	12,037.02
Insurance	594.93	1,372.12	192.51	7,068.53	1,867.28	40.20	197.40	350.26	11,683.23
Postage, Telephone and Telegraph	14,888.59	1,262.52	290.76	13,348.14	12,703.75	1,021.00	218.48	4,132.23	47,865.47
Rental of Equipment, Offices, Auto Storage, etc.	251.52	14,456.53	258.30	141,956.20	6,374.64	512.86	65.00	3,135.16	167,010.21
Bounty Payments and Grants	.....	.....	6,000.00	.....	.....	72,731.50	.....	2,000.00	80,731.50
Refund of Receipts	200.85	.....	.....	.....	2,455.00	.....	.....	.....	2,655.85
Fees: Artists, Attorneys, Medical, Taxidermy, etc.	.....	7.50	301.50	1,122.55	219.75	.....	141.50	14,542.79	16,335.59
Bear Damage Claims	.....	.....	.....	.....	984.65	.....	.....	.....	984.65
Other Maintenance Services and Expenses..	1,189.57	51.76	.....	500.46	2,159.10	62.35	998.42	962.10	5,923.76
Newspaper Advertising	.....	.....	.....	326.18	8,177.93	.....	.....	.....	8,504.11
Printing, Binding and Paper	5,917.74	1,028.27	3,129.58	7,442.76	4,532.35	557.15	271.45	78,542.56	101,421.86
Printing Hunters' Licenses, Tags and Misc. Forms—(1) (through Department of Revenue)	45,121.66	.....	.....	.....	.....	.....	.....	.....	45,121.66
Contributions to State Employes' Retirement System—(1) (through Department of State)	2,858.27	3,913.10	1,769.40	9,085.21	12,045.56	374.30	1,429.13	2,552.03	34,027.00
TOTAL EXPENDITURES	$174,726.78	$1,000,389.70	$ 86,161.19	$1,685,502.13	$668,409.17	$ 87,004.95	$ 88,884.35	$237,704.54	$4,028,782.81

Cash Balance in State Treasury to credit of "Game Fund" May 31, 1951 ..... $1,490,933.16*

* Excludes $93,000 War Bond Investment which can be converted into cash when necessary.

(1) These items are paid out of the Game Fund upon requisitions drawn by the Dept. of Revenue and the Dept. of State, and are included herein to complete the picture of the Game Fund finances.

EARMARKED FUND

Under the provisions of the Game Law, as amended by the 1949 General Assembly, not less than $1.25 from each Resident Hunter's License fee shall be used for improving and maintaining natural wildlife habitat on land that is available for public hunting; the purchase, maintenance, operation, rental and storage of equipment used in this work; the purchase, distribution, planting, cultivating and harvesting of game foods; the purchase, trapping and distribution of all species of game, as well as providing protection to the property of Farm-Game Cooperators.

This program has been in operation for two (2) years. The table below shows the expenditures in relationship to the minimum amount required by law for the fiscal years ending May 31, 1950 and May 31, 1951:

Year Ending	Expenditures	Minimum Amount Required
May 31, 1950	$1,211,687.72	$1,012,917.50
May 31, 1951	1,266,856.18	1,000,696.25
Totals	$2,478,543.90	$2,013,613.75

During the two-year period, the Commission spent $464,930.15 in excess of the minimum amount required by law for these operations.

CAPITAL INVESTMENTS

The entire Game Fund is not available for normal operating expenses, such as salaries, traveling expenses, wages, feed for game, payment of bounties, etc., but a certain amount must be spent for the essential working tools of the Commission, also maintenance expense incidental thereto. To produce a shootable supply of game and provide natural habitat with adequate food and cover requires land, game farms, buildings, pick-up trucks, heavy motorized equipment, etc. Money spent for such items is commonly referred to as "Capital" expenses. Just as it is impossible for large industrial plants to operate successfully without making "Capital" expenditures so it is with the Game Commission. The table below gives the actual consideration paid for land, together with the estimated value of other items as of May 31, 1951:

State Game Lands (1920-1951)..	$4,237,019.69*
Buildings on State Game Lands	131,945.00†
Game Propagating Farms (including land, buildings and equipment)	506,187.62†
Conservation School (including buildings, and equipment) ...	33,959.15†
Equipment (including automobiles, trucks, tractors, graders, etc.)	258,651.65†
Total	$5,167,763.11

* Consideration paid for lands including title and survey costs.
† Estimated value as of May 31, 1951.

HUNTING LICENSES ISSUED

To give you information on the general trend of hunting license sales since the license law was enacted in 1913, license sales at 5-year intervals from 1913 to 1938, and yearly from 1939 to 1950 are given below:

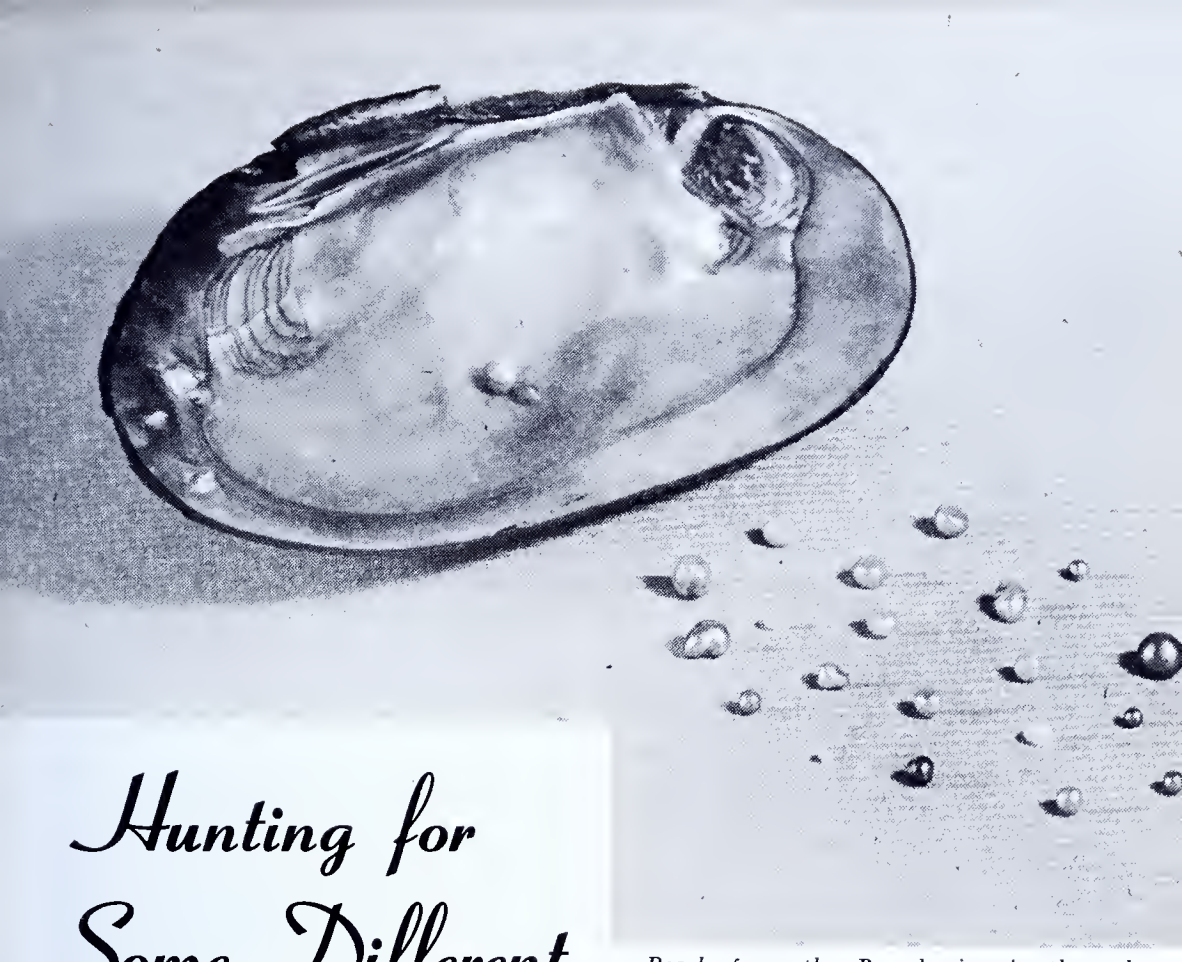
Year	Resident	Non-Resident	Total Licenses
1913	305,028	No Record	305,028
1918	311,290	478	311,768
1923	497,216	2,328	499,544
1928	437,727	1,190	438,917
1933	524,337	4,966	529,303
1938	654,146	7,584	661,730
1939	653,852	9,049	662,901
1940	666,420	12,748	679,168
1941	675,434	10,922	686,356
1942	640,821	8,394	649,215
1943	570,901	11,833	582,734
1944	593,917*	13,983	607,900
1945	696,394*	17,227	713,621
1946	832,846*	23,174	856,020
1947	822,423*	28,012	850,435
1948	854,840*	28,085	882,925
1949	815,915*	24,032	839,947
1950†	800,557	26,050	826,607

* Includes free licenses issued to Members of the Armed Forces, and Disabled Veterans: 1945, 32,373; 1946, 7,418; 1947, 2,876; 1948, 3,770; 1949, 5,581 and **Disabled Veterans, 275; 1950, information not available at this time.

** Issuance of free licenses to Disabled Veterans authorized by the 1949 General Assembly.

† Preliminary report, subject to minor changes.





Pearls from the Brandywine in the collection of the Academy of Natural Sciences at Philadelphia.

Hunting for Some Different Hunting?

By Bill Wolf

ONE of the unfortunate things about hunting in Pennsylvania, as elsewhere, is that it is confined principally to the winter months except for woodchucks and a few unprotected predators. For nine months out of the year, most hunters find nothing more exciting to hunt for than lost collar buttons and keys. If such tame hunting palls there is one "animal" in this State that can be hunted with much pleasure, and the possibility of profit. It is neither fish, flesh nor fowl. It is a nearly shapeless, nearly colorless blob of living matter, and it is hunted with a knife instead of a gun. Despite such a negative personality, hunting for it in the warmer months can be exciting.

This strange beast is the fresh water mussel, the "clam" found in our streams.

On the surface, mussels are about as uninteresting as a living organism can be. The kind most common in Pennsylvania look more like oysters than clams with a rough, dark outside shell. They live on the bottoms of streams, pursuing a dull and placid existence in which a laborious trip of five feet through the mud constitutes intense excitement. Stream beds usually are littered with shells of dead mussels, and they are often found on the banks where some raccoon has enjoyed a dish of mussels on the half shell.

However, the mussel is a prime example of beauty being only skin

deep, although it reverses the maxim with a rough exterior and a beautiful interior. The inside of its shell is lustrous and soft to the touch, gleaming quietly with colors that range from off-white through creamy, gray and faint lavender. The mussel itself, the living body inside the shell, is at least as attractive as an oyster, although it cannot be called beautiful.

Anyone who has ever opened a live mussel is struck by the pearl-like appearance of the inside shell. Actually, it is like a pearl, consisting of nacre from which pearls are formed.

More interesting, true pearls are formed in fresh water mussels and can be found in Pennsylvania. This is not especially new information (pearls have been found here since the earliest settlements), but it is surprising how few persons know much about it.

Pearl hunting is done best in the warm months, and certainly sounds more romantic than rabbit hunting or squirrel hunting. It is a genuine and interesting part of Pennsylvania's outdoors, and this will be some explanation of how to go about it.

However, the suspicious person who suspects that somebody might be trying to pull his leg with stories of real pearls in Penn's streams will want to know if they have any value, and the answer is "Yes." But the complete answer is that not many truly valuable ones are found— any more than every oyster in the Orient yields a pearl of great price. Numerous small ones are found, occasional large ones are taken, but the value of a pearl depends upon its size, shape and color, and it is a rare one that combines all these qualities.

Nevertheless, the possibility of finding a great, gleaming pearl is always present. One of the world's famous pearls came from a brook over in New Jersey. On the other hand, I have been hunting pearls off and on for many years and never found one that would cause jewelers to go into raptures. It's a gamble, just like prospecting for gold or uranium, but that's half the fun of pearl hunting.

The next natural question would be: Where in Pennsylvania? And the answer to that is "Most likely in the stream nearest to you." Nearly all of our creeks and rivers contain mussels.

In the Academy of Natural Sciences in Philadelphia there is a collection of fresh water pearls taken from the Brandywine Creek. They vary widely in size, color and shape (see illustration), but they are typical of what can be found. With few exceptions, I have found mussels in every stream I fish, although I can't say I found pearls in every mussel opened.

Pearls were known to the Indians when the first white men reach Pennsylvania. The Indians used them for decoration, and the Mound Builders to the west and south of what became Pennsylvania literally buried bushels of them with their dead. They have been found, dimmed and destroyed by time and the elements, but still pearls.

There is a story, perhaps apocryphal, that the first white persons in this State to find pearls and hunt them systematically were Moravian settlers along the Lehigh River. The story goes that these farming people lacked hogscrapers (those bell-like metal devices with sharp edges and a wooden handle, used to scrape the hair from a butchered pig after it has been dunked in a barrel of scalding hot water) and hit upon mussel shells as a substitute. In opening the mussels, they came upon pearls.

Pearl hunting is a pleasant way to spend a summer's day outdoors. Go to the stream you have selected prepared for wading. That is, either wear boots, or take along an extra pair of pants or shorts so you can wade without worrying about getting wet. The rest of your equipment will consist of a burlap bag or other con-

tainer fastened to the belt to hold the mussels you pick up, and a sturdy pocketknife to open them. Take a lunch along, too, because pearl hunting works up a hearty appetite, and you will be set for the day. One of the virtues of pearl hunting is that it doesn't require as much equipment as prospecting for gold.

A bit of experience is the best guide to where to look for mussels in the stream you visit; but let us assume you are doing it for the first time. Mussels prefer a rather shallow, sandy-muddy bottom, although they do not always find it. Therefore, I look first at the tail end of pools where the water becomes shallow and silt piles up before the stream takes its next drop over rocks or riffles—what we call "the lip" of the pool in fishing.

Some mussels betray their presence by leaving a trail through mud where they have worked slowly from one position to another. This trail looks as though a finger had been drawn through the mud. At one end of it—and you can't tell which way the mussel is traveling—you will find the mussel.

Most mussels, however are not so adventurous. They lead sedentary lives, seldom moving, leaving no tracks on the sands of time. They are more difficult to spot—but if you once find one, which is not too hard, it's easy thereafter. They give themselves away by their eating habits. Dining with them consists simply of opening their shells slightly, and taking whatever the current washes into them. The open shell is the giveaway.

A mussel, half buried in the mud, looks somewhat like a small stone, but with this exception: The partly open shell makes it look like a stone that has been split. It shows up as a dark mark. Look for that dark line on the "stone" and you will find a mussel.

Having found it, drop it into the burlap bag and look around for another. Usually, the downstream end of a pool will produce a score or more of mussels if it contains any at all. What's nice living quarters for one is home-like to others.

Conditions are different in rocky streams. Here there are not many pools, few mud and sand flats. When mussels inhabit such a stream, they are found on the downstream sides of the rocks where they are protected from the swift current. Finding them here is a matter of touch; the pearl hunter must feel around on the downstream side and be able to tell a mussel from a stone by the sense of touch. This is a bit difficult because the oldtimers among mussels that live in such streams often gets as much moss on them as the rocks. It takes some experience to locate mussels in such waters.

The size of the mussel doesn't make much difference, although the natural inclination is to pick the larger ones. A small mussel though, is not necessarily a young one which hasn't had time to form any pearls. Sometimes they are just runts. No rule holds good in pearl hunting except this one: The more gnarled and warped the mussel, the more likely a pearl inside. And even that rule is not infallible, since smooth mussels also produce.

There is a good reason why the twisted and misshapen mussel *probably* will produce more pearls. The pearls are formed exactly as they are in Oriental oysters. A foreign object gets inside the mussel and becomes irritating. This may be a grain of sand, a chip of rock, or even a parasite. The irritated mussel vaguely resents this, and starts to cover the goad with the same nacre that builds up its shell. This sometimes results in a blister on the shell's interior, or sometimes in a round pearl.

Many of the parasites bore from the outside. This gives the exterior shell a pock-marked appearance. The more pockmarks, the more likely some of the parasites have been en-



Photo by Chas. Elfont

Insert knife, and press mussel against the blade. Cut through the mussel's muscle that holds the shells together.

tombed in nacre by the mussel inside, creating blisters or pearls.

Let us assume again that hunting has been good and you have a sizable bag filled with mussels. The next job is opening them. This is made easier on a hot, sunny day by spreading them out in the direct sunlight. After a while, the heat will make the tightly closed shells open a bit. Sit down and have lunch while this is happening. Then you can go to work with a knife, and the job is easier than if you had tried to open them immediately after taking them from the water.

The opening should be done on a smooth rock, a board, a cloth, paper or some substance that will reveal a pearl that might drop from the opened mussel. Some pearls are located right on the outside edge of of the shell and fall out readily.

The opening method itself is similar to that used by professional clam and oyster shuckers. The knife is held firmly in one hand blade upright, and the mussel is pressed down against it after the edge of the blade has been inserted between the halves of the shell. Pressing the mussel against the knife instead of cutting down into the mussel is easier and safer.

Once the mussel is open, the real prospecting begins. Unfortunately, pearls are not produced in any one particular spot inside a mussel. Therefore, the entire body and shell must be examined. An apron of thin flesh separates the body from the shell on either side. Lift this first and look under it. Loose pearls will be found in the halves of the shell under this thin skirt. Then look at the hinges, where the strong muscle through which you cut with the knife to open the mussel are located. Sometimes, flat pearls are found there. Having examined the shell carefully, and making certain nothing dropped out, you then proceed to the body of the mussel and explore every bit of it with your fingers. Messy, but fascinating.

The delightful thing about fresh water pearls is their infinite variety in color and shape. This makes them hard to match as in a necklace, but gives individual pearls great value. Those found in Pennsylvania usually are dark blue, pink, lavender and white, although an occasional black one is discovered. More irregular pearls will be found than round ones. I have a small pink pearl taken from French Creek above Phoenixville that is shaped like a pillow with a string around its middle.

The irregular pearls have less value than the perfectly round ones, except in cases where they assume freak forms. Two famous and valuable fresh water pearls are the Hope (shaped like clasped hands) and the Canning pearl (like the torso of a man). In the pearl trade, those with irregular shapes have names that usually describe them, such as haystack, ovate, pear, arrowheads, lily leaves, doubles and triples, egg, pear and dogtooths.

A natural question that arises is: Where can I sell any pearls I find? That's a tough one to answer—not that the pearls are unwanted, but because it's difficult to get what they are worth if the finder tries to sell them in his own community. The average jeweler knows little about fresh water pearls.

Selling the pearls has been the least of my own worries, since I wanted to keep the small ones I have found; but the best advice to anyone fortunate enough to get a really valuable pearl is to take it to a large city and have it appraised by a leading jeweler.

In fact, that's the way the "pearl" fever of the past century started. In 1857, a shoemaker named David Howell cooked some mussels taken from Notch Brook near Paterson, N. J., and thus unfortunately ruined a huge 400-grain pearl in one. However, word of the pearl got around and many persons started looking for them in Notch Brook. Jacob Quackenbush, a Paterson carpenter, found a beauty, a magnificent pink pearl, and took it straight to Tiffany's in New York. He sold it for $1500, Tiffany sold it to a French jeweler for 12,500 francs, and eventually it went to the Empress Eugenie. It is now in a French collection, known as the Queen pearl and its present value is about $10,000.

A mad rush to hunt pearls in Notch Brook started, persons quitting their work, students deserting their classes. That year New York markets bought $15,000 worth of pearls from waters around Patterson (that would be $100,000 at today's prices) and the nation became pearl conscious.

The craze spread to Pennsylvania, Ohio, Texas, all through the south (Tennessee yielded the famed Sky Blue Pearl of Caney Fork), and then the big Mississippi drainage field opened. There were regular pearling camps, like those in the gold rush days, and each new find started a rush to the section.

Pennsylvania didn't really feel the fever until the big Mississippi finds were made, but by 1897 the State was running a high temperature. Some good pearls were taken from the headwaters of the Schuylkill, and the towns of Tamaqua, Quakake and Mahanoy City figured in the pearling news of the day. Pearls were reported from Lewistown Nipert, Still, Locust, Quakake and Heda creeks; but I can only find Locust and Quakake on stream maps. The streams were practically swept bare of mussels, however.

At the height of the excitement, dealers bought unopened mussels on speculation, gyp schemes flourished, "pearl farms" were started. This was especially true in the midwest; but when the fever died down the mussel hunters found they had a steady business on hand, selling the shells to button manufacturers. I have come across heaps of mussel shells out in some of Wisconsin's wilder country, left there by the mussel hunters to open and dry up the mussel itself so the shells could be packed for shipment to a factory.

The mussels found in Pennsylvania usually are too thin-shelled to be of any value in the button industry. In some states, where harvesting them is important, the mussels are protected by law; but they are of no economic value here, and it is doubtful whether they serve any important function in the so-called "balance of nature."

Therefore, I feel no special remorse when I collect and open a number of them along some streams. I suppose I don't really expect to ever find a big pearl, but some day I might. And in the meantime hunting for that great pearl is a good excuse for going outdoors when the sun is warm the water feels good around the legs, and the flowers of summer are out.

. . . *The End*

Outdoor Reveries



Dawg Daze

By John H. Day

AUGUST'S alarm clocks are shrilling once again. The countryman hears these loud warders on every hand and knows that high noon has come and gone in yet another year and that the hour is fairly one o'clock. Even city dwellers along tree-shaded streets are roused by the kettledrum racket of the cicada, that blunt-headed, pop-eyed blundering "locust" of August who believes in singing at length and loudly while he works.

Unlike his red-eyed cousin, who shows up only after seventeen years of contemplation deep in the ground, the periodic cicada appears on deck each summer, to add his voice to the strident insect chorus which moves into the choir lofts deserted by the birds. He has a habit of suddenly sounding off when disturbed in a tangled field which throws a chill into rattlesnake-minded hikers, but he's really harmless, and one of the main characters on the August scene.

Catch him when his blundering flight brings him within reach, and he will complain loudly, vibrating the drum heads stretched across sound chambers located on each side of his body. Then toss him high in air and he will take off for the nearest tree, where his sharp beak pokes through to suck up sap just like lemonade through a straw.

I chanced upon a newcomer, still wrapped in his tight brown cellophane suit, on the steps by the garage the other day. He moved slowly and deliberately, but ever upward driven by the instinct which had led him to bore out of the earth and into the sunlight. We gave him free run of a tall vining plant on the back porch, and he immediately started up the supporting trellis, until he arrived at a spot to his liking.

Here he halted and took firm grip. In a short while a line of pea-green appeared between his shoulder. His old suit was beginning to split. Then out came his head and those wide-spread eyes, followed slowly by his chunky body and two pairs of crumpled wings. These unfurled into the silver and green lace of maturity and he was ready for his carefree life of shouting in the treetops.

I walked slowly down the woodland roadway, watching a red-tailed hawk which circled in wide arcs above the trees. The only glimpses

I had of this hunter were when he soared across the narrow canyon which the road had carved through the timber. From time to time he uttered the peculiar wheezy scream he uses when on the prowl.

I had not traversed a hundred yards when I stumbled onto the quarry which had drawn the red-tail to this spot. Here along this lonely back country road was a filthy dump, smelling to high heaven. The roadway skirts a deep ravine at this point. Callous folk of the neighborhood, too lazy to make proper disposal of their household rubbish, have dumped a mountain of tin cans and other debris into this otherwise beautiful gorge.

Apparently I had come down the road so quietly that the huge congregation of rats living in this noisome mess was completely unaware of my presence at the roadside. There were so many of the big brown fellows looting about in that pile of rusty cans that the whole dump appeared to be a living, crawling thing. The hawk lost interest when he saw me standing there in the trail, and flew off elsewhere, screaming his annoyance.

The cricket chorus is once again in full voice during the dark hours in the valley. Countless numbers of these midnight fiddlers saw away all night long. The big green katydids play a sort of subdued counter melody to the trilling of the crickets, forever debating the question as to whether Katy did or didn't, and apparently never reaching a decision. For sheer endurance the crickets win all the prizes. There seems no letup in that rhythmic music from nightfall to daybreak.

The katydid is made of weaker stuff, and halts for a rest on a time schedule. There are so many minutes debate, then so many minutes of silence while the judges try for a decision. Suddenly the argument breaks out again. About this time the countryman has lost interest and is sound asleep.

We splashed around in a remote mountain bog walking boldly amid a host of the most bloodthirsty assassins still at large in the countryside. These silent treacherous killers were all about, plying their ruthless trade in refined murder with techniques remindful of the horrors of the inquisition.

In the open cranberry bog the little round-leaved sundew had set glistening traps to allure its trusting victims. It is certainly an innocent looking killer, with a tiny white blossom open in the sun and its leaves gleaming with what look like dewdrops. Along comes an unsuspecting fly to have a sip and what happens? Those treacherous dewdrops instantly glue his feet and the pretty reddish hairs on the leaf start closing in upon him.



As he struggles the sensitive hairs work faster. More of the sticky fluid binds and suffocates him. Finally the leaf rolls inward, making a temporary stomach. On the death of the hapless fly the leaf actually secretes a peptic fluid to help in digesting this latest victim. When assimilation is complete the deadly leaf opens again and sets the sticky trap for the next victim.

Below the cool sphagnum-choked bog area the marsh spreads wide across an upland valley. Many acres

of this flatland paraded the nutbrown fruiting heads of a tall wild marsh grass. Far off across this sea of rippling shoulder-high "marsh hay" a pair of marsh hawks dipped and soared above the brown "waves."

The countryman is always gripped by the throbbing spectcle of a pair of these marsh harriers on the wing. Their long wings make the birds look quite large in flight and the distinctive white patch on the lower back is a non-mistakable field mark. As we watched the great birds coursed low above the waving grass, expertly quartering their hunting grounds for the mice which are their main dietary item.

While the harriers performed in the distince a short-billed marsh wren set up his chop-chop song from the sedge close at hand. Another echoed him from somewhere off to the left but we were too absorbed in the hawks to pay much heed.

Sharing the drier sections with the alders and the rhododendron were many small Juneberry trees, their branches blue-black with the dead ripe fruits. These make delicious eating, especially when the going is hot and humid. I don't get too many chances to stock up on these juicy fellows and I made the most of this golden opportunity.

Always there is the chance of meeting up with a rare orchid in this bog trotting business. One such discovery makes the whole adventure worth while. You flounder through the deeper spots, suddenly plunging one foot halfway down to China, watching carefully for poison sumac the while a deer fly saws a neat chunk out of the back of your neck. Even your eye glasses get all steamed up over the extra exertion.

I was in just such a situation in that high country bog. The deer flies had set up a blood bank on my neck and the fickle swamp had lured me into some missteps which had plastered me almost to the knees with the sour-smelling muck. I plunged ahead, aiming for some high and dry tussocks when the rarely beautiful little rose pogonia shoved a lone flower up through the sedge at my feet.

Here was part of the answer to the countryman's love of the wayside trails. Perhaps next week and even rarer wildling will come out of hiding. Who knows?

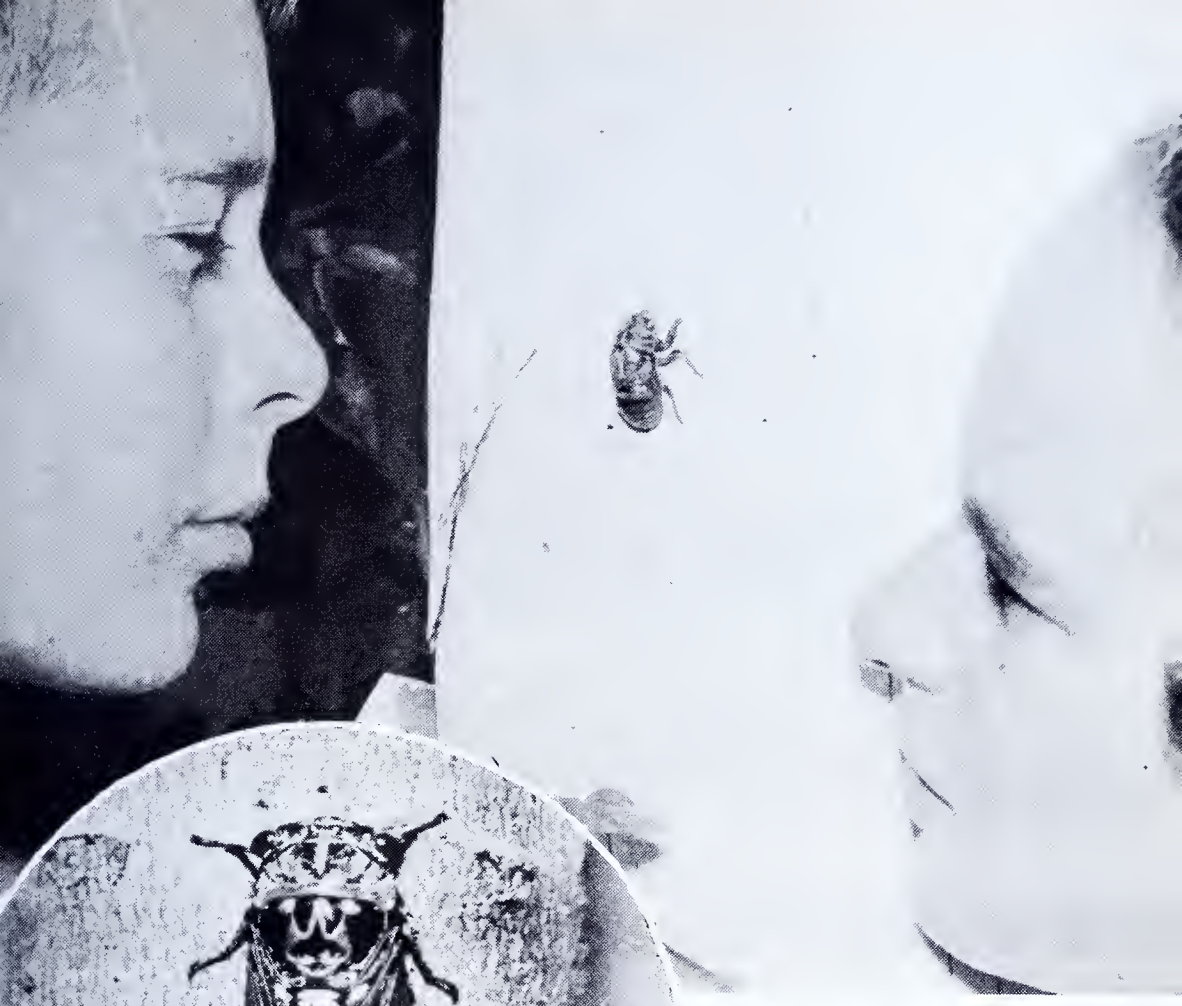
There is a certain nostalgic sadness in the passing August days. The hints of approaching Fall are on every hand. The lustre of the season begins to dim. Thistledown floats on the hot and humid air, sure sign that a troup of goldfinches have been busy pecking the ripe heads to pieces for the seeds. Already many of the birds have started planning their journey to the southland.

Of course when August arrives the fret and hurry of the season are over. Dog days are usually tranquil days. The wildlings in the fence row ripen and harden their growths. Nuts and seeds and bulbs finish storing up the necessary food for the future plant.

If August has a banner flower it must surely be the tall and stately Joe-Pye weed. Lavender-pink spires of this lusty fellow tower above all competitors in the low-lying meadows and moist roadsides it loves. An Indian medicine man named Joe-Pye earned fame and fortune by curing typhus fever and other horrors with decoctions made from this plant, which now carries his name into posterity.

The countryman walks the wayside trails of a drowsy August afternoon, noting here where a big shagbark has set a bumper crop of hickory nuts—there where bittersweet will provide him a colorful Winter bouquet. He sees the milkweed pods preparing to embroider October's robe with shining silver floss and knows that even the sultry dog days have their place in the scheme of things.

. . . *The End*



Outdoor Kids

By Hal H. Harrison

SEVENTEEN-YEAR-LOCUSTS are not locusts.

They are cicadas.

True locusts are grasshoppers. Cicadas have stout black bodies about an inch long with wings that extend well behind the body and are held in a roof-like position.

When Billy and Jane were little youngsters, they learned to know the wailing "song" of the cicadas in the trees in late summer. It wasn't until this summer that they found the empty shell of one of these insects. Then

they found many of them for this was the year that the seventeen-year-cicadas hatched in Western Pennsylvania. It was then that the children learned the wonderful story of this creature.

The female cicada lays her eggs in twigs by pushing a long, needle-like instrument under the bark and placing the eggs in the opening thus made. The eggs hatch in six to seven weeks and the larvae (the newly hatched cicadas) fall to the ground and immediately dig their way to the roots of a tree. They are then home . . . home for seventeen years.

In late spring of the seventeenth year, by some mysterious signal, the cicadas start swarming from the ground and from twenty to forty thousand individuals may emerge from the ground under one tree. At that time of their development, they are called "nymphs."

Great hordes of nymphs climb the trunks of trees and fasten their sharp claws in the bark. A split appears in the back of the shell, and a soft, flabby, milky-white insect comes out, leaving the hard, empty shell in a life-like position behind. Within a short time its wings expand, its color changes, and it becomes an adult cicada.

It is this empty shell attached to a pole that Billy and Jane are looking at in the picture above. The cicada itself has already flown.

The shrill "song" of the cicada is produced only by the males who have special vibrating drums under their abdomens for that purpose. The female is silent.

Although there are over seventy-five different cicadas in North America, only two species are well-known: the periodic cicada or seventeen-year-locust and the annual cicada.

The chief difference between the two is the length of time the nymph remains in the ground. Despite its name, the annual cicada emerges every two years. The periodic cicada's usual period underground is seventeen years, but in the south, a thirteen-year form occurs.

OUTDOOR KIDS IN BOOK FORM

Our own OUTDOOR KIDS are now in a book of their own.

This series of stories about Billy and Jane and their dog, Pal, which originated in THE GAME NEWS in April 1949, and have appeared every month since that time, plus many more unpublished chapters, have been made into a book, OUTDOOR ADVENTURES, and published by Vanguard Press, New York.

In some of the most remarkable outdoor photographs ever taken, the author, Hal H. Harrison, follows Billy and Jane through 51 adventures in the out-of-doors, capturing in pictures and text the excitement and wonder of the world of nature. Over 100 photographs illustrate the adventures.

In the text that accompanies each adventure, the author not only explains the particular event in the animal, plant or bird world, but he also shows how each child can follow through the four seasons, the same path to wonderment and knowledge.

Mr. Harrison has agreed to autograph books for any readers of THE GAME NEWS who wish to order the book from him. The book is $2.75 plus 20 cents postage and mailing charge. Order direct from Hal H. Harrison, 1102 Highland St., Tarentum, Pa., and be sure to *print* the name of the person to whom the book is to be personally autographed.

Columbia County

Home of State's Only "Town"

Twelfth in a Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

Columbia County situated on the edge of the anthracite fields, was once a part of Northumberland County. Bloomsburg, the county seat, is the only Pennsylvania municipality incorporated as a "town."

Land Area

The county contains 312,576 acres, of which 148,142 acres are forested. Publicly owned land comprises 13,497 acres, all of which are State Game Lands.

Topography

Several very steep, narrow-crested ridges extend through the County, between which are wide valleys that can be cultivated. The North Branch of the Susquehanna River cuts through its center and it is drained by Fishing Creek, Little Fishing Creek, Huntington Creek, Catwissa Creek and Roaring Creek.

Transportation

Railroad transportation is furnished by the Delaware, Lackawanna & Western the Pennsylvania, and the Reading Railroads. U. S. Route 11 and other important highways traverse the county, which has 420 miles of improved State roads.

District Game Protectors

Mark L. Hagenbuch, 295 Penn St., Bloomsburg, Pa., has jurisdiction over Pine, Jackson, Sugarloaf, Benton, Fishing Creek, Greenwood, Madison, Mount Pleasant, Orange, Hemlock, Scott, Centre, Montour and Briar Creek townships.

Lewis H. Estep 1237 W. Front St., Bloomsburg, Pa., has jurisdiction over Mifflin, Beaver, Main, Catawissa, Franklin, Cleveland, Locust, Roaring Creek and Conyngham townships.

Fish Warden

Charles Litwiler, New Media.

Agriculture

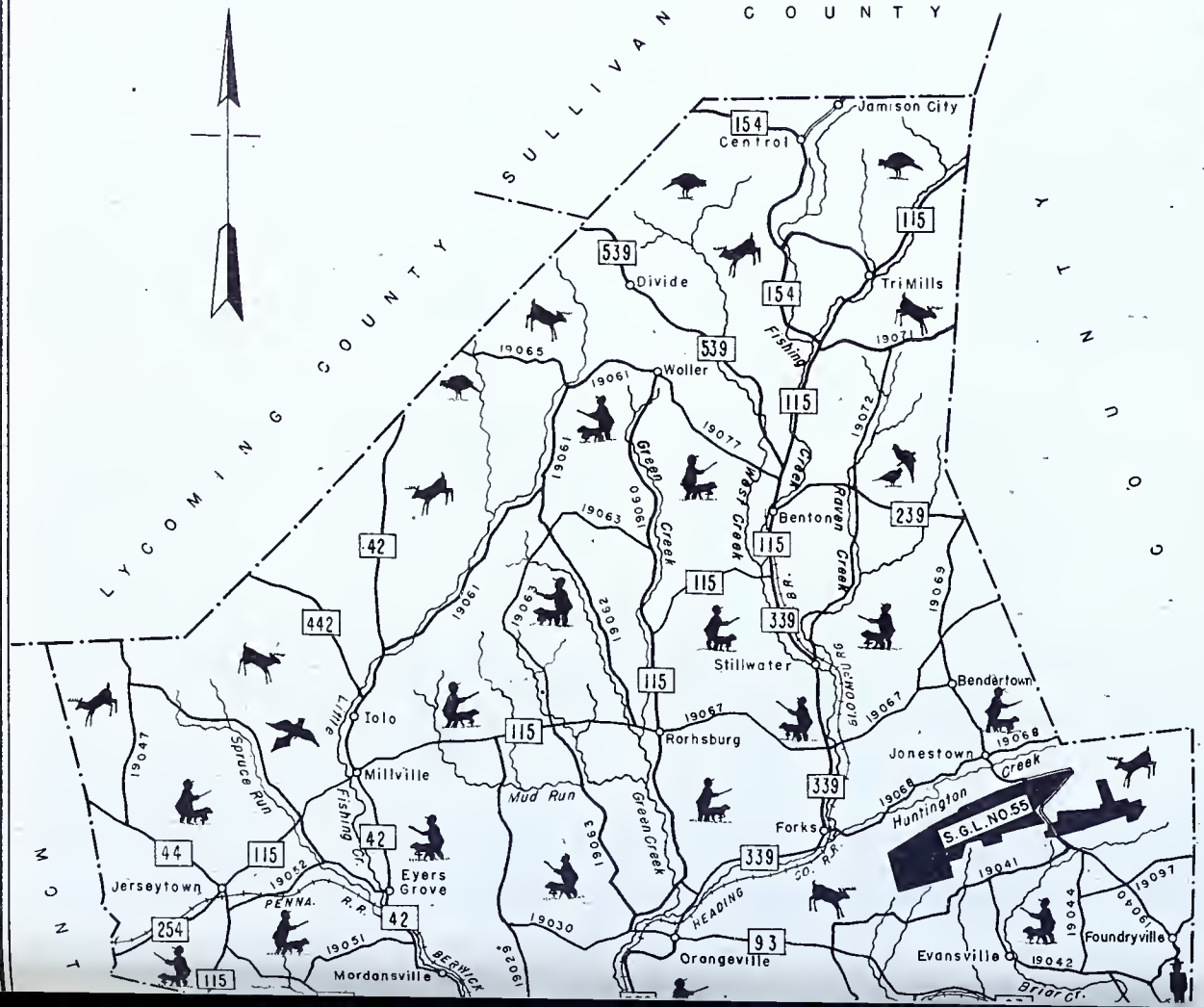
Principal farm output is corn, truck produce, poultry, potatoes, and dairy products.

District Forester

Samuel F. Kobb, Bloomsburg, Pa.

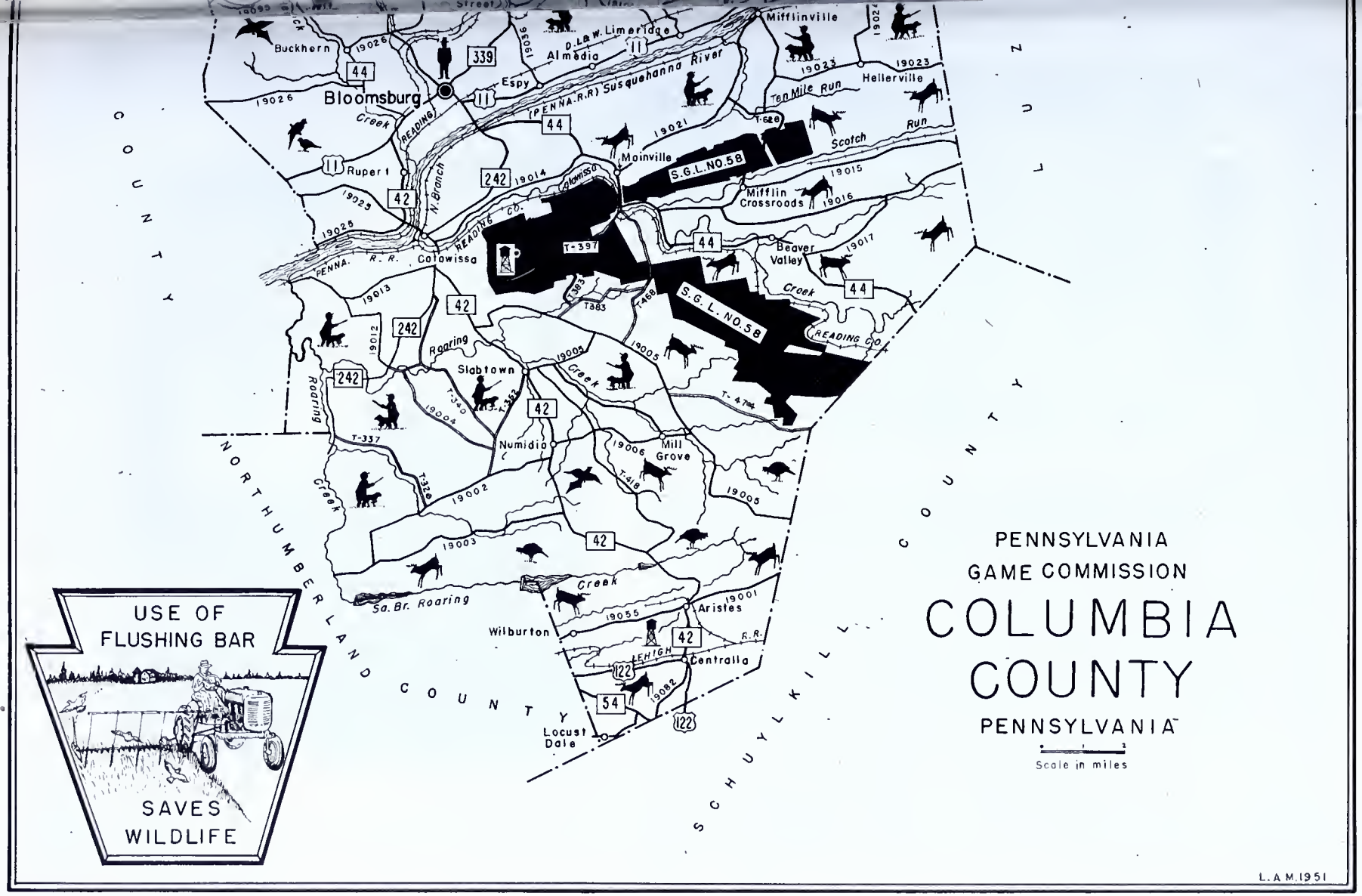
Industry

Columbia County was formerly noted for its deposits of iron ore, which together with abundant limestone, brought early fame for this section as an iron manufacturing center. Later the industries became more diversified. Anthracite is mined in the southern end of the county and, in a finely divided state, is dredged from the Susquehanna River. Lime, moulding sand, and building sand and gravel are also produced. The principal classes of manufacturing industries are metals and metal products, textiles, food products, mine and quarry products. The chief



···KEY···

- County Seat.
- Farm Game Project.
- State Forest Fire Observation Tower.
- Game Protector's Headquorters
- Deer Hunting
- Wild Turkey Hunting
- Small Game Hunting. { Grouse, Pheasant, Robbit & Squirrel.
- Railroad.
- Stream.
- State Game Land.
- 44 — Pennsylvania Route Number.
- 111 — U.S. Highway Route Number.
- 19016 — Legislative Route Number.
- Township Route. (T-468)



USE OF FLUSHING BAR SAVES WILDLIFE

PENNSYLVANIA GAME COMMISSION

COLUMBIA COUNTY

PENNSYLVANIA

Scale in miles

L.A.M.1951

products are railroad and electric street railway cars and parts, carpets and rugs, anthracite, silk and rayon goods.

Historic

Before the Revolution Columbia County was a camping ground of the Delaware and Shawnee Indians. The borough of Catawissa occupies the site where once stood a large Indian village of the same name. During the Revolutionary War the British and Indians waged war on the settlers of this region and several forts were built at strategic locations for their protection. Fort McClure, built in 1781, was located on a farm near the present site of Bloomsburg. Prior to 1813 Columbia County was a part of Northumberland County and in 1845 Bloomsburg was selected as the county seat. During the Civil War a thousand Federal troops were sent to Bloomsburg on the grounds that a group of conspirators was evading the draft and had built fortifications for their defense in a remote spot in Fishing Creek Valley. The soldiers found no fort and the men who were apprehended were eventually released without the accusation having been proven.

Recreation—Hunting

Columbia County enjoys excellent deer hunting in the wooded areas. Small game of all kinds abounds, including both farmland and woodland species. Ringnecks are fairly abundant and wild turkeys are making a comeback in some of the wilder sections.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stocked waters) include: Coles Creek, brook trout, Sereno, 4 mi.; Fishing Creek, brown and rainbow trout, Benton, 6 mi.; Lick Run, brook trout, Numidian, 4 mi.; Mugser Run, brown trout, Elysburg, 4 mi.; Roaring Creek, brook and brown trout, Catawissa, 13 mi.; West Creek, brook trout, Benton, 4 mi.; Fishing Creek, black bass, Bloomsburg, 12 mi.; Little Fishing Creek, black bass, Sereno, 8 mi.; Huntingdon Creek, black bass, 6 mi.



Penna. Dept. of Commerce photo.

Profile Rock, a noted natural phenomenon near Catawissa.

Reload to Keep Shooting

PART I

By Ed Shearer

NO phase of shooting is any older than reloading. It came into being with the first gun, as all guns were muzzle loaders at that time. The shooters of these arms were faced with the same basic problem that faces the reloader of today, that of getting the best load for his purpose within allowable safety limits of pressure etc.

The powders were crude, with no set standards maintained. The results were erratic and some times devastating in unexpected directions in the crude firearms of the day.

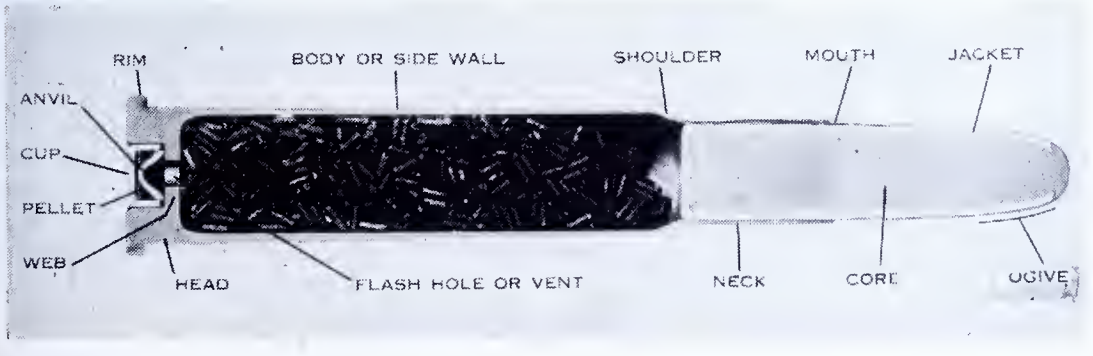
With the advent of the breech loader and the brass cartridge case in the Seventies, reloading, as we know it today, was born. By this time powder had been vastly improved and conical bullets had replaced the round bullets of the past. Knowledge of how to combine as well as control the two was to usher in a new era of accuracy at longer ranges.

As the change-over from cap, powder and ball to fixed ammunition took place, some obvious draw-backs became apparent. First the wages of the period were low and the new brass cartridges were high in price. The distributing facilities being extremely poor, the lads in the hinterlands were liable to find themselves with a fine rifle and no shells obtainable.

So with a class of hunters already used to doping out loads for their muzzle loaders they took to reloading as a matter of course.

The buffalo hunters were an example of this. They were away from their base of supplies for long periods of time, in a hostile country; the nature of their occupation made the running out of ammunition a major catastrophe. Contrary to popular fancy the men who wiped out the buffalo did not accomplish this from horseback, but from stands, shooting the lead buffalo through the lungs and dropping the rest as they milled around. This method, to be successful, required extremely fine shooting at comparatively long ranges of about three hundred yards. The old-time buffalo hunter soon found that by loading for the individual rifle and carefully selecting the bullets their old Sharps 45 cal. and 50

Cut-away view of a typical center-fire rifle cartridge.



cal. rifles gave much improved accuracy. This class of hunters were probably the most deadly marksman in our Nation's history. This is well attested at the battle of Adobe Wells when a mere handful of buffalo hunters stood off Quonnah Parker's Indians at impossible odds. There is one story that has never been told. The facts are this battle was won and our buffalo were wiped out largely with hand-loaded ammunition.

In times of scarcity or high prices or a combination of both, if the common, ordinary, garden variety of hunter or shooter desires to continue his sport, he must turn to reloading. That is one way out if we like to smell powder.

When we throw away the empty brass case, we are throwing away the most expensive part of the cartridge. It just isn't good sense to waste the one vital material the factories must have if they are to make ammunition available to us. There is another angle to look at. The more shooters reloading the more factory ammunition will be available on the dealers shelves to help the other fellow.

The one obstacle that keeps a great number of hunters and shooters from "rollin' his own" is the belief that it is highly dangerous, that it is complicated and requires technical knowledge, or that equipment is very expensive. In this series, which is written for the beginner, we will cover these various points; how to load, primers, shells, powders and bullets, both lead and jacketed. The various types of reloading tools and the relative cost of simple and deluxe outfits will be discussed.

Let us start with the standpoint of safety. Now, this is no game for "Take-a-chance Harry," who drives without brakes and expects to reload the same way. But the chap who follows the instructions and reloads carefully is not engaged in what might be termed a hazardous pastime —especially if he sticks to low and medium power loads. Here are some things that you *must* do:

Know the caliber and gun you are reloading for. The fact that you can get a cartridge in a gun does not prove that it is safe, regardless of make of gun. Some years ago the government sold a large amount of obsolete .38 cal. Colt's double action revolvers for a song. They are still around. They were designed for the .38 long Colt black powder cartridge, with hollow-base bullet. Because .38 long shells were hard to get the boys soon found you could stuff a .38 special into them—so they promptly became .38 specials, regardless of the fact that this cartridge produced almost double the pressure of the black powder load. One chap who persisted in this had the club range all to himself when he fired his strings. Then one day he reloaded some high speed loads that were perfectly safe in our .38 special colts and it happened. The cylinder burst and the top strap blew off! The tip of one finger went by the board along with his wacky ideas on guns in general and calibers in particular!

Another version is the guy who gets the bright idea to take the powder and bullet out of one cartridge and load them in another. The .25 calibers are a striking example of this. The bullets all appear to be the same diameter to the eye. But let's take a look at the .250 Savage which takes a bullet of .257 diameter. Now take a .256 Newton bullet which, although called a .25 caliber, actually measures .263 thousandths of an inch. To fire this in a .250 Savage would only result in a blown-up rifle and possible injury to the shooter.

Powder, unless you see it come out of the canister, is a matter for the laboratory, and not guess-work for John Doe. This will be taken up under its proper heading. Another point should be stressed at this time. Do not try to pep up and streamline

the old thutty-thutty, or any other tubular magazine rifle, by using pointed bullets. These sharp points would get too chummy with the primers of the cartridges riding ahead of them in the magazine and the jolt of the recoil might give you a coming-out party that would be disastrous. The above is only a partial list of how you can get into trouble when you operate on your own initiative, but the chap is perfectly safe who follows the simple instructions and sticks to medium-powder loads given in the Belding & Mull or other equally good handbook.

Knowing that it is a complicated procedure and requires some technical knowledge, let us go through the operations of loading a cartridge for your gun. The loading tool need be not the most expensive, but should be complete enough to do a good job. Having the cartridge case from a fired factory load the first task is to remove any evidence of crimp at the mouth of the case. You do this by chamfering the mouth with a small reamer made for this purpose or, lacking this, you can use your pocket knife. This prevents the mouth of the case from shaving the bullet as it is seated in the neck of the case. Then you rub a light coating of oil over the outside of each case, after which it is placed in the tool with the decapper in place and the primer removed.

Next you insert the combined resizer and expanding plug in the tool. Closing the handles or lever, depending on the type of tool you are using, forces the case neck into the resizing die and over the expander plug. Opening the handles or lever withdraws it. This resizes the neck of your case that has been expanded by firing in your rifle and expands the inside of the neck of the case to the exact diameter in thousandths of an inch to hold the bullet friction tight in the neck. The neck-sizing operation is important because the



neck size must be of correct size to hold the bullet with the tension necessary to obtain uniform pressure and velocity which are necessary to achieve fine accuracy. Then you wipe the oil off the cases and line them up for a close inspection to be certain that they are perfect, with no splits or other deformities. The cases are now ready for priming and reloading. Put them in a box as you inspect them, so you will not overlook any.

Next you place each case in turn in the part of the tool that holds the recapper, then you insert a primer in the primer pocket of the case. As you close the handles or lever the primer is seated to the correct depth. This is important so as to avoid misfires and to obtain uniform ignition. Inspections are necessary after each operation, especially in the case of beginners. Make it a practice to be 100% careful from the start. It pays.

Now the case is ready for the powder. The first thing you do is to eject all smokers from the room. Now, assuming that you possess a powder-measuring machine and a pair of powder scales, you will set your powder measure to throw the amount of powder decided upon. Set the scale on the powder measure according to the table that comes with it. You now open the canister of powder of the correct type for the load and fill the hopper on the measure full of powder. The setting on

the powder measure will seldom throw the correct charge to start with, so you put a charge on your scale and weigh it accurately. Then you proceed to make small changes in the adjustment of the powder measure until it throws uniform charges within one tenth of a grain of the charge decided upon. Now we get out our loading block, which is a board drilled with the proper sized holes to receive the cases, mouth up. With the powder measure place a charge in each case. Then, by one of the methods explained under the chapter on powders, make sure that all the cases are loaded and none have received a double charge. Can happen, you know.

The next move is the seating of the bullets in the case. You screw the bullet-seating die in your reloading tool. Now insert a factory cartridge in the tool and screw the die in until it makes contact with the bullet of the cartridge. Then unscrew the die about 1/8 inch. Now it will seat the bullet to protrude to the same distance out of the neck as the factory cartridge. Next place a powder-filled case in the case holder of the tool. Press a bullet lightly down in the mouth of the case. Hold the bullet in line as you press the case into the bullet-seater, so the bullet will slide into the neck properly, without buckling or shaving the bullet. This is an important operation, as accuracy depends on setting the bullet in a straight line with the case, without being deformed. You will soon pick up this trick without difficulty.

Now remove the cartridge from the bullet-seating die and carefully try it in your rifle chamber. The bullet should be seated to such a depth in the case that when the action is closed the lands of the rifling will just touch the ogive or curve of the bullet. It should protrude far enough so that the imprint of the lands should be faintly discernable on the bullet. In lever action rifles this method will probably not allow the cartridges to pass through the action, so these bullets must be seated deeper. When the seating depth is just right you screw the bullet-seating die in until it seats the bullet and lock the die in the tool with the locking nut. Then seat bullets in all your powder-filled cases and pour the powder in the measure back into the canister. Now you can light the old dudeen again.

The last operation is to stand the cases up in a row and look them over carefully to see that the bullets are seated to a uniform and correct depth in the cases. Be sure that no deformities whatever exist.

The reloading of pistol cartridges is the same as rifle cartridges, except that the bullets must be crimped in the case if full or heavy loads are used. Bullet-seating dies for pistol cartridges have an adjustable shoulder which permits crimping at any desired depth. Instructions come with the tool.

Now we come to the matter of cost of tools. You can buy a Lyman tong-type tool complete for one caliber for $9.50. This tool is about the minimum with which you can turn out satisfactory ammunition. Most of us old timers cut our eye teeth on this tool. The prices of others range on up to a few hundred dollars depending on number of different cartridges, the quantity of loads you want to turn out and gadgets you may desire. The quantity of shells you will shoot is the determining factor to a large extent. This will be covered later.

Now we come to the economy of reloading your own ammunition. One thousand Roberts cartridges would set you back about $149.00. Now instead of throwing the fired cases away, suppose you stuck them in your pocket. In that event one thousand rounds of reloaded .257 cal. would cost you about $55.00, a difference of about $94.00, not counting

the cost of tools. This will more than pay for a very complete outfit. Even more important to the rifleman is the variety of loads made available to him. There are loads to meet every need from rats in the woodshed to an old buck across the hollow. If you wish to mould your own, the lead bullet opens up a new world of shooting. This cuts the cost to less than a cent for a bullet weighing 150 grains.

Next month we will take up pressures, primers, and cases, the foundation of successful reloading.

. . . *To Be Continued*

MAKE-DO'S AND SUBSTITUTES —SAFE AND UNSAFE

By Dr. Henry M. Stebbins

There's every indication that hunting arms and ammunition will be in short supply this fall. In some places they are already hard to get, and everywhere they're pricey. Hunters' ingenuity will turn to make-shifts, and with some of these we really could make shift, whereas with others we'd make sorrow.

No set of warnings and suggestions can cover the field. Who would have thought to tell a certain hunter that rough-cut and .22 shorts carried loose in a pocket make a poor ballistic combination? The bowl of his pipe had to be the proving ground for that one!

But here are a few. Most examples only illustrate a principle, with similar combinations possible and easy to figure out.

Factory Ammunition

Rimless cartridges, too short for the chamber, give dangerous "excessive headspace"—too much space behind the head of the cartridge, with back-and-forth play for it in the chamber. Example: 8 x 56 m/m Mannlicher-Schoenauer (bullet about 8 millimeters in diameter, brass case or shell 56 millimeters long) in 8 x 57 m/m Mauser rifles.

Straight, rimmed cartridges, too short, are usually safe but after much use will burn the front of the chamber: .22 short in .22 long-rifle chamber, .38 long or short Colt in .38 Special, .45-70 in .45-90.

Chamberable cartridges with bullets dangerously oversize: 8 m/m or .35 Remington in .30-06. If choice is offered, massage rattlesnakes instead!

Confusing names: .32 short or long Colt in .32 Smith & Wesson arms, .303 Savage in .303 British, .35 Remington in .35 Winchester model '95: firing possible, with unpleasant or dangerous gas escape to rear. .30 Krag in .30-06; no go, no problem here.

.30 M-1 U. S. carbine ammo can be fired in some .32-20's but its high pressure is very dangerous in most of them.

.38 "Super" automatic cartridges are meant for the Colt Super pistol only. Read box label, as headstamp on the brass may not distinguish this fodder from standard velocity .38 auto., still made for older Colts and some foreigners.

.38 Special and .357 Magnum sizes can be loaded into some old .38 Army revolvers with straight, unthroated chambers made for old, outside-lubricated bullets. Super or high speed .38 Specials are best used in modern, heavy-frame revolvers only, dangerous in some old ones, and the .357 is safe only in guns originally chambered, and stamped, by the factories for this stiff load.

Blank cartridges have special, fast-burning powder and never should be asked to fire any bullet or shot charge with any hope of safety.

The little .32 S&W short cartridge can be fired as a single loader, with safety and fair accuracy, in .32 pistols and .32-20 arms.

(More of These Next Month)



MAINE'S DEER ARE GROWING BIGGER

Maine's sportsmen sometimes smile knowingly when they hear the cries of anguish uttered by fellow sportsmen in other states where conservation officials have been trying to relax the buck law. No one ever sold them on the buck law and they seem content to continue harvesting does as well as bucks year in and year out.

If sportsmen from the buck-law states tell them they are exterminating their deer, they have some fairly convincing arguments on the other side. For the last three years, the annual bag of deer has averaged over 35,000 in a state, about one-fifth the size of California.

Twenty-five years ago only 8,379 deer were taken. The herd has increased and is still increasing in spite of the lack of special protection for does. In 1925, a two-hundred-pound deer was a rarity; last year weighing stations operated by the Maine Fish and Game Commission checked through 837 white-tails weighing over 200 pounds and 55 that tipped the scales past the 300 mark. Not many of the buck-law states are producing deer of that size today. Records from official weighing stations in states where buck laws have been carried on the statute books too long indicate that bucks in some places are decreasing in size, antler development, and reproductive vigor.

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West Virginia Quietly Drops Buck Law

A number of state fish and game administrators are casting envious glances in the direction of West Virginia, according to the Wildlife Management Institute. At a recent meeting of the Conservation Commission, a regulation was readily approved which makes deer of either sex legal game in all counties open in deer hunting.

The ease with which this regulation was adopted and the calm with which the sportsmen of West Virginia accepted the news are in marked contrast to the near-hysteria which grips some hunters in the "old" buck-law states whenever the sanctity of the female deer is questioned. Although West Virginia only recently became a deer-hunting state, her fish and game administrators have carefully avoided the pitfalls into which others have fallen in the matter of deer management. The buck law has been used intelligently as a tool to build up herds to harvestable proportions but is now being dropped before the numbers of the deer outgrow the available food supply and before agricultural damage becomes prevalent. More important, the sportsmen and the public at large have been subjected to a well planned educational program designed to give the salient facts of intelligent deer management.

The West Virginia Fish and Game Commission is to be complimented for its progressive action and for avoiding mistakes made by some of its neighbors who have been fighting for the last 25 years to get the public to accept sensible deer management programs.



Governor John S. Fine signs Senate Bill No. 479 which provides a special bow and arrow season for hunting deer in Pennsylvania. Standing, left to right; Clayton B. Shank, Executive Secretary and Thomas A. Forbes, Chairman of the Legislative Committee of the Penna. State Archery Assn. which promoted the legislation, and Thomas D. Frye, Executive Director of the Penna. Game Commission.

ARCHERS GET AN OCTOBER ANTLERED DEER SEASON

Pennsylvania hunters whose greatest thrill is the pursuit of the elusive whitetail will roam the hills and valleys of their native state from October 15 to October 27, 1951 inclusive, Sunday excepted, matching their hunting skill against the wiles of the deer.

The hunter's big game rifle will be standing in the gun cabinet at home and in its stead he will be equipped with the traditional long bow. He will not even be permitted to carry any kind of firearm. The old-time woodsman's skill at stalking game, (a neglected art where driving deer is the customary procedure) will be revived, and the successful hunter will be the individual who can outwit a deer at its own game of concealment.

During the special Bow and Arrow Season male deer with two or more points to one antler may be legally killed by residents or non-residents who have purchased a resident or non-resident hunting license and in addition secured a combined Special Archery License and Archery Preserve Permit costing $2.00 (two dollars) from the Department of Revenue at Harrisburg, Penna. A hunter must first secure his necessary hunting license and insert the number of the license in the space provided on the application when sending for his

Special Archery License and Archery Preserve Permit.

Upon receipt of the Special Archery License and Archery Preserve Permit it should be countersigned across the face by the hunter, attached to, and carried with, the regular hunting license (there is no special tag).

During the regular gun season an archer may hunt with bow and arrow as heretofore without buying a special archery license. A resident or non-resident hunting license is all that is required unless the archer desires to hunt in the special archery preserves during this period, in which case he must possess the combined Special Archery License and Archery Preserve Permit.

Remember, a hunter may kill only one deer during the combined 1951 seasons.

Be sure to make a report to the Game Commission on the space provided for reporting big game killed with the bow. Good hunting. May you get an open shot at thirty yards—and no alibis.

SPORTSMEN'S PLANTING PROGRAM

The Izaac Walton League of America is promoting a "Johnny Grass Seed" project with considerable early success. League chapters obtain seeds of plants which grow well in the locality supplied and distribute them among cooperators in the program. Grains and grasses so planted by sportsmen and land owners, in gullies, road cuts, abandoned fields and in field corners, not only supply needed food and cover for wildlife, but they reduce soil erosion, too.

It is encouraging to note that numerous sportsmen's organizations in the Commonwealth have already embarked on game habitat improvement programs in their own localities. Some of the clubs supply seeds, others trees and shrubs to the farmers. Still others actively engage in planting programs which have the direct effect of increasing game populations on lands over which the Game Commission has no jurisdiction.

CHARLES BAYNARD LISTER

When Charles Baynard Lister, Executive Director of the National Rifle Association and Editor of the American Rifleman magazine, died in Washington recently, American outdoor sportsmen lost a great leader. From the time Lister joined the NRA in 1921, he led the fight to protect the rights of all American citizens to bear arms to protect their homes and to enjoy the thrill of hunting in the field.

Lister made every effort to cooperate with the police and legislators in working out sensible gun control measures which would discourage the criminal use of weapons without unduly discouraging their proper use by the average law-abiding citizens. His untiring efforts paid off when the National Congress took the advice of the NRA in writing the National Firearms Act and the Federal Firearms Act.

In one year during the 30's, one hundred and sixty-nine impractical or vicious bills were thrown into the legislative hoppers of thirty-nine states and Congress. All were rejected by the legislators through prompt and adequate presentation of the facts.

Lister also did great work in educating the youngsters in marksmanship. He was responsible for the Uniform Hunter Accident Reports now being used in all states of the Union.

The monument that C. B. Lister leaves behind is the National Rifle Association which he helped to build and the right of all Americans to use and enjoy their guns in the sporting fields and on target ranges of America.



ROGER M. LATHAM

Mr. Latham needs no introduction to the readers of GAME NEWS. For many years he has contributed numerous important articles to the magazine, all based on exhaustive studies in field and laboratory. As the new Chief of the Commission's Research Division we predict an even larger number of informative bulletins and manuscripts from his able pen.

Roger has been with the Commission since July 2, 1936 and is a graduate of the first class (1937) of the Ross Leffler School of Conservation. In July of that year he was assigned to the Wildlife Research Division and carried on wild turkey and white-tailed deer studies in the field until 1939, when he was placed in charge of the Commission's Wildlife Experiment Station at Loyalsock. He supervised that project until 1941, then conducted important fox and quail studies in the field until 1943. From 1943 to 1945 he conducted medical research studies for the armed forces at Cornell University, then returned to the Commission and carried on additional quail research until 1947. That year he was granted leave of absence to enroll in The Pennsylvania State College where he graduated in 1951 with an M.S. in Wildlife Management.

Roger is a true outdoorsman, a good hunter and fisherman, and above all a good conservationist. He has written articles for Field and Stream, Hunting and Fishing, Outdoorsman, etc., and many scientific papers, and is a member of the National Wildlife Society and the Society of American Mammalogists. Roger is married, has four children, and is at present residing in Newport. We wish him the best of luck in his new position.

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CONSERVATION AWARD

Congressman J. D. Dingell, of Michigan, became the second recipient of the annual Farmer-Sportsman Club award at Berwick, Penna., when the award was accepted by J. A. Brownridge, publicity director of the National Wildlife Federation. Congressman Dingell had been seriously ill in a Washington, D. C. hospital and was unable to be present at the banquet held in his honor at Berwick, April 25.

Senator James H. Duff, then governor of the State of Pennsylvania, received the first award last year in person for his advancement of the Clean Streams Program in Pennsylvania.

Congressman Dingell was honored for his past performances in the interests of sportsmen of the nation, and most especially for his efforts to have passed the Dingell-Johnson Bill, a measure which earmarks the excise tax on fishing tackle for use by participating states in fish restoration.

His award was in the form of a gold plaque, and his acceptance was conveyed in absentia by Mr. Brownridge who then presented an interesting talk on the activities of the National Wildlife Federation. He presented the plaque to Congressman Dingell upon his return to Washington, D. C.

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Until 1913 robins were classed as game birds in some southern states.

* * *

The hyena is an intermediate species between the dog tribe and the cat family.



$1,000 Doe

CALCIUM—On May 31 I had a deer killed on the highway near Calcium Station carrying a pair of fawns that would have been born shortly. It was caught in the grill and radiator, then came loose and wedged under the wheel. This threw the car out of control and overturned it on an embankment. A mechanic estimated the damage at close to $1,000, but fortunately the driver was not injured.—District Game Protector J. A. Leiendecker, Reading.

Gobbler Likes His Eggs Scrambled

NEW ALBANY—On May 24 I received a call reporting a wild turkey gobbler killed for damage. I drove to New Albany to investigate the



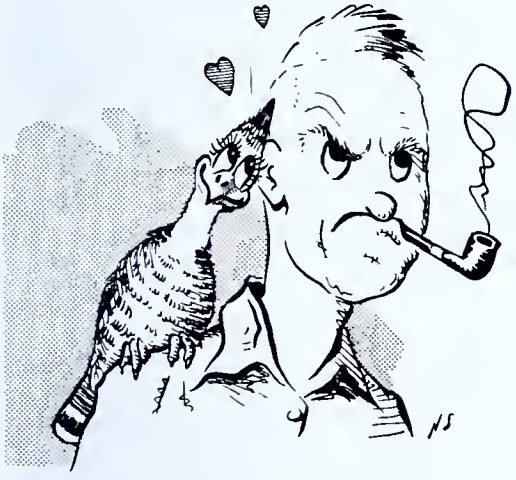
case, wondering what damage a turkey could do that would justify killing the bird. Here is the story as told to me by the farmer's wife and she had evidence enough to prove it.

She looked out the back window of the farmhouse this morning to where two of her tame turkey hens were nesting within thirty yards of the house and saw that a large wild tom turkey was fighting the two tame hens and had badly crippled one of them. She ran out of the house, picked up part of a board on the way, and batted the wild tom a couple of times over the back and he took to the mountains. About twenty minutes later she looked out again and the wild bird was back and had destroyed 18 eggs in one of the nests. This time when she went out the tom took to the mountain side before she could reach him with the board. While she was doctoring the crippled hen the wild tom came back for the third time and started to wade through the second nest of eggs. This was too much so she took the .32 Winchester off the wall, raised the back window, and let him have a slug through the middle. This put an end to his nest raiding days and furnished a wild turkey dinner to the patients in the Ross Hospital, Canton, Pennsylvania.—District Game Protector Duane E. Lettie, Canton.

Friendly Grouse

CHICORA—Mr. H. A. (Pat) Patton, popular sportsman of Butler, Pennsylvania, recently told me an interesting Ruffed Grouse tale. About May 10, his nephew, Harold A. Shearer, who farms at R. D. 2, Chicora, Pennsylvania, observed a Grouse following his tractor while he was plowing. This activity continued for several days, the grouse becoming more familiar with each turn about the field. Finally, on May 13, this familiarity became a passion, and the bird flew up upon the tractor and

after a bit alighted upon Mr. Shearer's shoulder. The following day the bird did not appear and several days later it was found dead near the field border with its head and a portion of the breast missing. Mr. Shearer considered it the victim of a Great Horned Owl.—Raymond A. Shaver, Farm-Game Area Leader, North Wales.



Orchids To F-G Co-Ops

LEHIGHTON—The farmers in this district would like to have the Farm-Game Projects expanded further. They have been in effect in this area for only two years and they are very well pleased with the benefits. At the present time we could add 5,000 acres. This vast waiting list can be attributed to the fine Sportsmen-Farmer-Game Commission relations. District Game Protector Elder D. Ramsey, Lehighton.

Milk Moochers

RENOVA—While inspecting crop damage claims for farmer Proctor, his son, Todd Proctor, told me of an unusual occurrence. It seems that two fawn deer have adopted one of their milk cows as their mother. At any rate, the fawns can occasionally be seen making use of the portable milk bar provided by Farmer Proctor's cow.—District Game Protector Charles F. Keiper, Renova.

Unappreciated "Bird" Dog

PORT ROYAL—Shot two stray unlicensed dogs, also three crows during the month. Also was successful in ridding an area of a wild dog that had been roaming at will during the past two years killing game and chickens. The farmer on whose lands he was favoring was highly pleased as the dog had just previously killed 29 chickens for him.—District Game Protector Owen E. Seelye, Port Royal.

Pot Calling the Kettle Black

HUNTINGDON—One morning the 24th of May, Harry Moyer, a resident of Penn Township, Huntingdon County, was awakened by the terrible clamor of noisy crows cawing out near his chicken coop. Mrs. Moyer told him to hurry out there, "the crows are after the little chicks." Harry grabbed his gun and went out to investigate. The crows, being ever watchful, saw him coming and were hastily departing as he came around the corner of the large chicken house. Then to his surprise, he saw a large Great Horned Owl taking flight from a light pole near the little chicks' coop. Moyer quickly aimed and fired his shotgun and brought down Mr. Owl at about twenty-five yards. This is one case where the "No Account" crow actually called upon man's help to wipe out his mortal enemy.—District Game Protector Dean M. Lesnett, Sr., Huntingdon.



Skunk and 'Possum Census

NEW STANTON—I have long felt that our opossum and skunk populations have risen to a dangerously high point. The incentive to trap them is nearly gone with the slump in the long fur market. They have very few natural enemies, and because of their varied diets, food is not much of a problem.

The only man I met who shared my views was Mr. W. S. Pyle, of Youngwood, Pa. Mr. Pyle is a retired Railroad Engineer, and trapping is his hobby.

I asked him if he would assist me in a little experiment, and he consented with enthusiasm. We wanted to trap a given area clean of all predators and secondary predators—if I may refer to the skunk and opossum as such.

The area we selected lies between Mt. Pleasant and New Stanton on FGP No. 131. We wanted a fairly typical 400 acre piece of Westmoreland County. About 40 acres of this is old pit-holes and brushy strip, 30 acres of crab thicket, a brushy woodlot of perhaps 50 acres, and the rest is both abandoned and cultivated fields with a few small streams and heavy fence rows.

Mr. Pyle trapped from October 1, 1949 to January 31, 1950 using pole dead-falls, with the exception of a few steel traps for fox. These are his results, and we both feel it is pretty clean:

149 opossum, 108 skunk, 24 weasel, 7 gray fox, 3 stray house cats, and 13 crows (incidental).

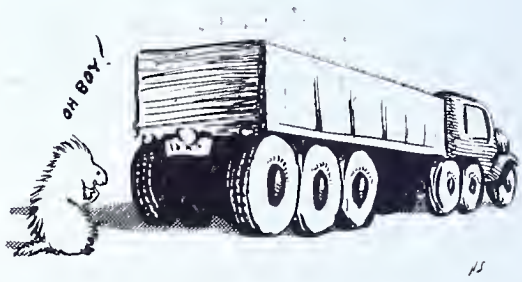
This isn't research, for neither of us know much about a good conclusive study. Without doubt some of this take moved into the area during the period trapped. Neither of us are coming out with a solution. One thing we do know is that during this period there were this many predators and secondary predators on this tract of land. This does not include winged predators, remember. May I ask you one question: "How much chance has a quail, a pheasant or a rabbit of rearing young on a tract of ground similar to this"? —District Game Protector Carl E. Jarrett, New Stanton.

No Vacancy?

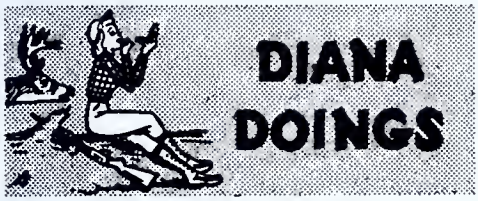
NORRISTOWN—Recently while working on my home I heard some birds scolding and in general, carrying on quite a commotion. I found all the noise was coming from a bluebird house I had put on a telegraph pole 10 feet above the ground. I walked closer to see what the trouble was and found a black racer going up the pole to the box. Luckily I had a camera handy, but when I snapped the picture he was on his way down. —William A. Rightler, Norristown.

Porkies Have Strange Appetites

COUDERSPORT—I have investigated many damage complaints including deer, bear, rabbits and beavers, but this is my first experience with porcupines causing damage other than molesting hunting camps. Mr. Fred Hosley, of Coudersport, R. D. came to my home and inquired what could be done to keep porcupines away. Taking it for granted that they were destroying lumber, I



told him to put salt out for them, but he asked me to come outside and he would show me the damage. Not knowing what he meant I went out with him. There I observed four truck tires, chewed to the fabric in some places, and practically ruined. —District Game Protector Robert F. Ellenberger, Coudersport.



An SOS

"I give my pledge as an American to save and faithfully defend from waste the natural resources of my country—its soil and minerals, its forests, waters and wildlife."

WE WONDER if this pledge has come to mean a jumble of words to be mumbled over without having any real meaning to us. Have we climbed on board the conservation band-wagon just to be a part of the crowd, or do we really mean what we say?

You and I and thousands upon thousands of sportsmen and citizens in Pennsylvania and throughout the Nation have taken that pledge. It is short, only 29 words, but those words are of inestimable value which cannot be reckoned in dollars and cents.

If we are sincere when we say we will save and faithfully defend our wildlife creatures, then we have a job to do *pronto,* and very little time to accomplish that task for which we have pledged ourselves.

It is now absolutely certain that the smallest, most colorful and unique of all the North American deer family, the little Key Deer is doomed to extinction unless we get busy.

Twenty-nine words plus a period equals 30 deer.

A member of the white tail family, these deer measure 25 to 29 inches in height and are 38 inches long when full grown. The bucks will weigh in around 30 to 35 pounds while the doe will tip the scales at about 20 to 25 pounds. The little fawns are very tiny, just about equal in size to our cottontail rabbits.

These rare toy deer were once very numerous all along the Florida Keys. Since time immemorial they have waged their fight for survival in a harsh, almost waterless habitat. These Key Deer were the first deer to be seen by white men in the new world. Columbus described them for his Royal Sponsors in his report on his fourth trip to the new continent.

Herman d'Escalante, who was held captive by the Indians in the lower keys of the Key West Chain, made special note of these pygmy deer in his memoirs written in 1545, after his release.

In 1947 only seventy of these tiny deer were left on Big Pine and No Name Keys. By 1950 they had dwindled to forty and today only about 30 or even less can be counted as remaining. They are the last of their family.

These deer have been slaughtered by invading poachers, who run them into the sea with dogs and then shoot them. Fires, hurricanes and crocodiles have taken their toll. Today, the whizzing motorist on the overseas highway to Key West is unwittingly hastening the end. Last year, eight of these little fellows were run over and killed by cars alone, as they attempted to find water in the roadside ditches to quench their thirst. All these things have contributed to the present dangerous level in their number.

Because of its delicate, centuries-old adjustment to its own unusual environment and the unduplicated habitat of the keys, the surviving herd cannot be transplanted to another region. If these tiny deer

could have been removed, then they might have found better protection from the onrushing civilization and they would not now be at the brink of disaster.

Two unsuccessful attempts have been made to save these rare deer through legislative action to establish a definite Sanctuary for them in their natural home on the keys so that they may be preserved. So far these attempts have failed through lack of support.

If such a sanctuary could be set aside giving them full protection, it is felt that they could be saved and their number could be raised to around 200 in a few years, which is deemed sufficient to insure them against complete oblivion. In addition, such a sanctuary would help to preserve the unusual and rare tropical plants which grow in this particular area, but are found nowhere else in the United States. Then, too, birds, such as the uncommon white-crowned pigeons, whose chief feeding ground is located here on the keys, where our little toy deer browse would be protected and preserved also.

To visit such a sanctuary where one could see rare wildlife creatures and birds, plants and flowers would be a rare treat. Tourists, nature students, scientists and just plain lovers of the great outdoors would find it a great attraction.

No conservationist wants to see any species of wildlife now living, become extinct, nor does the average citizen. We already have lost far too many wildlife species that will never again roam this earth, because we recognized the danger too late or were dilatory about taking action on their behalf.

Many sportsmen and conservationists have been working to save these deer but they are not sufficiently strong in number to carry the project through. They need help.

Conservation of a species is not just a local problem, it is Nationwide. Defense of wildlife creatures is not limited to those we can see and hear, nor to those we hunt as game—it means all creatures within our boundaries.

It has been said—"When you want a job done get the ladies at work on it and it will be done."

Let's show them what the Pennsylvania Women can do with this job. Take a few minutes out of your day and send me a card or letter saying—"I would like to see the United States Legislature take immediate steps to set aside a Sanctuary and provide protection on the Big Pine Key in Florida for the preservation of these tiny Key deer so that they will be preserved to posterity and will not become extinct." Your editor will see that they are placed in the hands of the proper authorities, and it is our sincere hope that there will be thousands of letters.

Enlist your neighbors, the ladies in your club and church, your Girl Scout Troops, then enlist your husbands and sons in this life-saving project.

Pennsylvania has long been a leader in the conservation field. Let us raise our voices and show the world that in the good old Keystone State we women really mean what we say when we pledge to save and faithfully defend the natural resources of our Country—its soils and minerals, its forests, waters and *wildlife.*

Twenty-nine words plus a period equals the life of 30 toy deer.

Just A Reminder

In case you hadn't noticed, the season on groundhogs opened on July first and runs through September 30th. There are plenty of groundhogs, in fact they are so numerous in some sections that they are causing the farmers no end of trouble. Most farmers will welcome a hunting party out for a mess of woodchuck with open arms.

Why don't you Annie Oakleys organize a Groundhog hunt as a special event these grand days when its so nice to be outdoors. Stir up your shooting partner to a little competition. You'll have plenty of fun and will be doing the farmers a favor.

If you're not a Diana, then suggest to the hunter in your family that a change is needed in the menu and a mess of woodchuck would be just the ticket.

If the jaunt turns out successful, for these sly little fellows are a real challenge to the hunter, then here is how to fix it. You'll have a dinner fit for a kig. *Mmmm, Good.*

Groundhog Fricassee

(This recipe is for 1 woodchuck)

Skin and clean Woodchuck. Cut into pieces similar to method used for rabbits. Wash meat well and soak in cold or ice water for a few hours. Place meat in boiling water to which has been added a bay leaf, a pepper corn, a small piece a cinnamon stick, a couple cloves, a teaspoonful of salt and a tablespoon of vinegar. Parboil for one-half hour. Remove from water and dredge with flour. Fry in hot fat until golden brown and crusty. Place browned meat in roaster. Lay several slices of onion over top of meat or sprinkle with onion salt, add one-fourth cup of water, salt and pepper to season. Put lid on roaster and place in oven. Bake at 375 degrees F for approximately one hour or until tender, depending on age of animal. Baste occasionally and keep a small amount of water in bottom of roaster while baking so that the meat steams to a nice tenderness.

To round out meal. Serve whipped potatoes, a tossed vegetable salad with Roquefort or blue cheese dressing and buttered green beans.

. . . *The End*



The Call of The Trapline

By L. J. Kopp

THIS month seems fitting that our thoughts drift back two hundred and nineteen years into our history, to a farm home near Philadelphia. There, on July 14, 1732, Daniel Boone was born.

Daniel Boone followed the call of the wild as a trapper and woodsman. Throughout the United States he has become the idol of millions of modern American trappers, and we wonder if the disappearance of primitive Indians, the lust for fame and riches, and the primeval wilderness has any bearing on the "call of the trapline"?

Many people, including some trappers have the queer idea that the only interesting thing about trapping is the fur money which you stuff into your wallet—if you had a lucky season. The financial returns from trapping can only be described as outward satisfaction. Even so, it is only temporary. The call of the trapline involves something permanent. There is something about trapping and life in the wild that brings peace to your mind. On the trapline day after day, your mental faculties relax, and you forget about man-made worries.

You see birds hopping about in the trees; you learn their habits. You



see wildlife in its own habitat; you see the peace and freedom which it enjoys. You are a trapper out there visiting wildlife every day at about the same time; you get to learn the daily movements of wildlife. Your mind becomes clear and sound. As you go about your daily encounters with this free state of life, quietly and usually alone, you find yourself possessed with an inner feeling that you are not alone. You have a feeling of being closer to reality.

There is something fascinating about the deer which you see feeding in the early dawn, quiet and calm. Just momentarily your mind pauses when you hear the slight rustle of leaves as a little cottontail hustles back to the under-brush. There is something strangely familiar when you hear the soft hoot of the great horned owl drifting out of the quiet and mysterious night. There is a feeling of satisfaction and clean thought when you look up into the sky and see a large yellow moon riding high against a background of deep calm and softness.

The trapper today no longer thinks in terms of how many animals he is going to catch. To the average trapper such a thought is "canned drivel." Unlike in the pioneer days, trapping today is a competitive field, but trappers are as concerned about how to outwit the elusive animals as they are about outwitting the human competitor.

Generally speaking the important thing is in solving the many peculiar little problems which pop up all over your trapline. These always come up unexpectedly, and usually at an undesirable time, but solving them gives you an inner feeling of satisfaction that you have accomplished something. It is this phase of trapping which trappers prefer talking about; it keeps conversation ticking.

Speaking of ticking brings to mind the story of a trapper who solved the problem of outwitting a particularly trap-shy fox on his trapline by burying an old watch under his trap. The fox came along, heard the watch ticking, and, thinking it was an insect of some kind making the noise, began digging for it and got caught in the trap.

There is another tale about a trapper who hung a piece of cloth on a tree limb over a fox trail. A short distance away, on an ant hill or mound of some sort he set his trap. Well sir, the fox came along the trail, saw cloth, and was so fascinated by what he saw that he decided to sit up on top of this nearby mound and watch it. He was still there the next morning when the trapper arrived.

These incidents may be described as tricks, or as bits of shrewd thinking, but in either event they are what trappers prefer talking about.

Some trappers have very aptly described the call of the trapline as being the element of surprise of finding a catch. For that matter, all catches are made unexpectedly. The element of surprise is increased when you find a particular kind of animal which you did not expect. In general, you never know what your next trap will hold, and at times it is even a surprise to find an empty trap.

This element of surprise can also come about through incidents which

do not even concern trapping at all. Such incidents happen while you are in the process of trapping, and they can be interpreted as being more of a scare than a surprise.

I recall one morning I was checking a trap near an old abandoned building. It was still dark, and very misty. I had with me a little two cell flashlight with weak batteries, but it was sufficient to check the trap when I got there. As I made my way back to my jeep parked on an old mountain road, I heard a sound coming from the old building looming before me in the early morning darkness. It sounded like two people talking to each other in muffed voices, yet I knew that nobody had lived there for many years. There I was, only a short distance away from an eerie-looking building. In my hand was a little flashlight with weak batteries, and out of the building came strange-sounding voices. It was a perfect setup for a surprise, if you prefer to call it that, but when I finally did recover from the "surprise" I realized that I was listening to two owls discussing an owl problem of some kind.

Some trappers find it most interesting to challenge various trapping methods which are accepted as standard. In fox trapping it is understood by most trappers that many precautions must be taken in order to trap foxes. However, to some trappers the mere act of trapping a fox according to accepted methods is not exciting enough. They proceed, therefore, to find out how many of these accepted standards they can defy, and still catch a fox.

Instead of using a clean trap, they might set a rusty one just to see how it will work out. Nine times out of ten they will catch a fox in a rusty trap. If you want to be a bit more serious, you could forget all about wearing rubber gloves, and proceed to set your trap with bare hands. As an added touch some trappers might drop a cigarette stub into the bait hole, or spit on the trap. In other words, many trappers find it more interesting to try new methods, or revise old ones, than to find out how many animals they can catch.

The unusual or uncommon is another thing which helps to make trapping interesting. For example, some trappers relate experiences of catching two animals in one trap, particularly muskrats. Some trappers have told of catching two skunks in one trap at the same time. Catching a muskrat or a 'possum by the tail, or a fox by a hind leg, is a rather rare occurrence.

Speaking about unusual catches reminds me of the time a few years ago when I almost caught a man in one of my fox traps. It happened that I had a fox trap set in an open field, and naturally, people who are not familiar with fox trapping seldom recognize fox sets. So it was that a man happened to be walking across this particular field, and by sheer coincidence stepped on my trap. When he lifted his foot to take the next step, the number two



trap snapped shut behind him. According to his narration of the incident, he almost jumped out of his trousers.

These things then, the clean and sound thoughts which enter your mind; the unusual and the humorous; the unexpected and a few little scares mixed together make up the call of the trapline.

. . . *The End*



Shooting Technique

By Thomas A. Forbes

PART II

Form

FACING his first target the beginner has reached a point where he unconsciously makes a decision upon which will depend his future success with a bow. Whether his ultimate objective is to loose a broadhead at a deer which he has successfully stalked, or to match his skill in friendly competition on the target range or over a field course set up to simulate actual conditions encountered in the hunt, or both, at this early stage the road divides.

One fork is the easy road. It runs down hill and it is not difficult to travel. If a novice follows this road he just starts shooting. Some hits, plenty of misses, and at the start an occasional gold (bull). The end of this road is reached when the archer realizes that no matter how much he shoots or what equipment he purchases his scores do not show gradual improvement. Only one course remains if he is to master the bow. He must retrace his steps to the fork in the road, and it is an uphill pull going back because all the time he has been just shooting, habits have been acquired which must be broken.

Let us assume that enough has been said to give emphasis to one of the maxims of archery—it is the man behind the bow who makes the score. Our aim as a novice is to strive for form, precision, and sameness in every act of drawing the bow and loosing an arrow. As our technique improves so will our scores improve. It is an uphill road but it has no end and near the top are the champions still struggling to achieve the mythical goal of archery, a perfect round.

The technique of shooting a bow, or to use a phrase in common use among golfers, "proper form," can be broken down for purposes of discussion into several component parts; stance, the draw, anchor, aim, holding, release, and follow-through. Each part must be mastered separately and the several parts coordinated into a smooth working whole.

Stance

Take position with the left side facing the target (left handed persons substitute right for left and vice versa in all instructions). The feet should be spread comfortably apart and the body weight distributed evenly on both feet. Both toes should be on an imaginary line drawn from the center of the target to the archer. Hold the bow in a horizontal position in the left hand with the bow string up. In this position the archer is facing ninety degrees from the target. Now turn the head and look along the left shoulder at the center of the target. Keep the entire body fixed in this position throughout the act of drawing the bow and releasing an arrow. Do not twist the body to face the target, shift the body weight from one foot to the other or tilt the head forward to meet the bow string as you draw.

Nocking The Arrow

Raise the bow to a position in front of you about waist high, with the arrow plate up and the string resting against the inner forearm.

Holding the bow in this position, draw an arrow from your quiver,

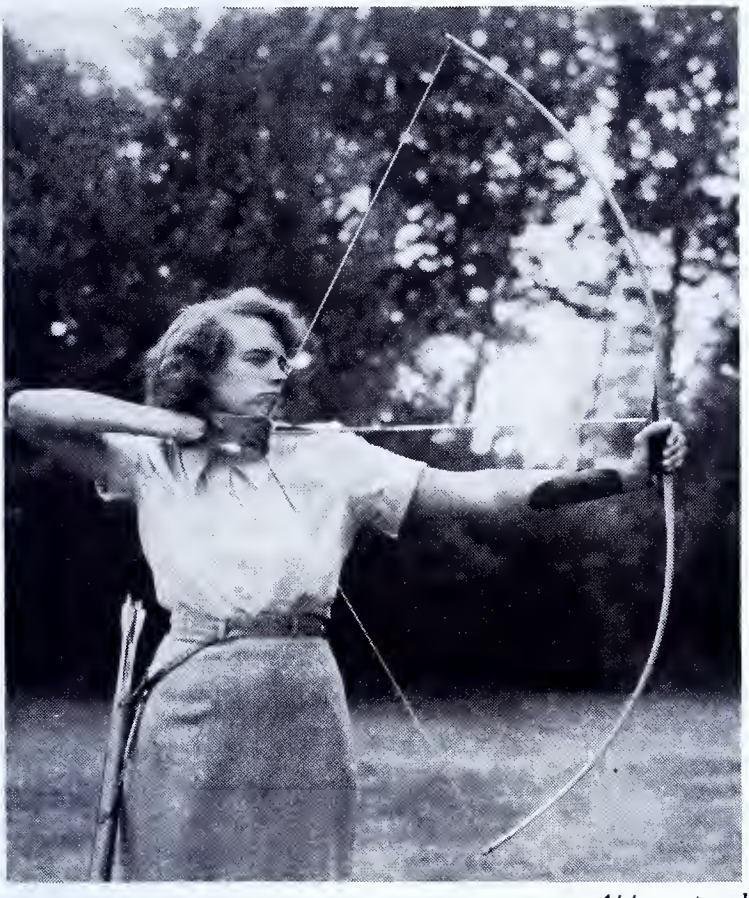


Plate V

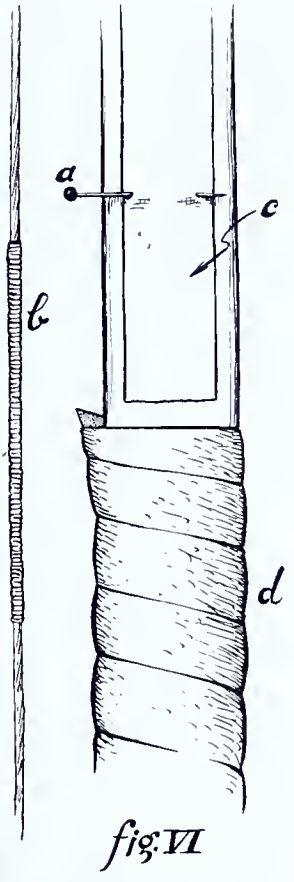


fig. VI

Apparent relation of the bow string (b) and line of sight (a) with bow (d) at full draw.

grasping it at the nock with the thumb and forefinger of the right hand. Lay the arrow across the bow at the arrow plate and turn it until the cock feather, which is at right angles to the nock, is perpendicular to the bow. Shove the arrow forward until the nock is in the space between the string and the bow. Then draw the arrow toward the string so that the latter enters the nock at the nocking point on the string. Hold the arrow in place under slight bow string tension with the forefinger of the left hand.

Drawing

The bow is drawn with the first three fingers of the right hand. The thumb should be relaxed in the palm of the hand with the end touching the base of the little finger. In this position the thumb will fit comfortably beneath the jaw at full draw.

With the palm up and fingers fully extended place the forefinger under the bow string to the right of the nock. The middle and ring fingers are placed under the bow string to the left of the nock. The bow string should cut across the three fingers equally about three quarters of the distance from the finger tip to the first joint. Draw the bow carefully for a few inches, all three fingers working equally in drawing the bow.

Swing the bow to a vertical position with the grip about shoulder high. The bow should rest against the base of the thumb with the fingers curled lightly around it, held in place by the tension of the draw. Do not grip the bow tightly.

Extend the left arm toward the

target with the arm bent slightly to provide proper clearance for the bow string which otherwise would strike the inner arm at the elbow.

Now with the drawing hand pull back steadily using the shoulder muscles to do the work. The fingers, hand and forearm should be relaxed; muscular effort should be confined to the shoulder muscles.

At this stage precautionary measures are taken by the archer to protect his equipment. To prevent overdrawing the bow an arrow should always be nocked to measure the length of the draw. Flex the bow carefully, increasing the draw length gradually until the point of the arrow is drawn even with the back of the bow at the arrow plate.

During this flexing process the beginner may find that the arrow moves away from the bow and falls off the arrow rest or rises vertically as the bow is drawn. In the first instance this trouble is avoided by the way the drawing fingers apply the initial pressure to the bow string. Touch the bow string with the three drawing fingers at the first joints and as you apply pressure let the string revolve until the string reaches the actual drawing point on the first joints of the fingers. The friction between the bow string and the inside of the nock on the arrow will force the arrow against the bow and it will remain in this position throughout the draw. In the second instance the point of the arrow rises because pressure is not not applied evenly by the drawing fingers and in a direct line with the arrow.

The Anchor

The muzzle velocity of a rifle bullet is dependent upon the powder charge and remains constant for each shot. In archery the initial velocity of the arrow is determined by the length of the draw. For consistent accuracy this length of draw must not vary.

Generally speaking anchoring can be divided loosely into two main divisions. First, the underjaw anchor, with which the best scores are made in target shooting. This is the anchor generally preferred by archers using a bow sight or point of aim. Second, is the high anchor frequently used in hunting or roving, and usually preferred in free style shooting without the use of a bow sight or point of aim. The method is erroneously called instinctive shooting. Actually judgment of elevation at unknown distances is only acquired by experience and there is nothing instinctive about the method. With this preliminary discussion we will confine our description of anchoring at this point to the underjaw anchor, which will give excellent results either on the target range or in free style shooting in the hunting field. The high anchor and free style shooting will be discussed in a later article. It should be fully understood that excellent scores can be made on the target range using the free style or so-called instinctive method of shooting and without the use of a bow sight or point of aim, but the underjaw anchor and bow sight have in late years produced the target champions.

Keep the elbow of the drawing hand level with the shoulder. Draw the arrow until the V formed by the forefinger and thumb fits snugly under the jaw and the forefinger bears up against the right jaw bone. The tip of the fore finger will be approximately opposite the chin. In this position, if the head has been held steady, the bow string should touch the point of the nose and the middle of the chin. If you have chosen arrows of the proper length the tip or point of the arrow will be even with the back of the bow. (Plate V)

Holding And Releasing

The arrow is loosed by relaxing the tension in the first joints of the drawing fingers. This allows the bow string to slip smoothly from them, whereupon the hand should move directly to the rear, being stopped by the

limit of movement possible in the right shoulder.

Creeping is the term used to describe any forward movement of the arrow prior to its release. Attributed to fatigue or an inclination to relieve the tension of the bow string, creeping usually results in the arrows falling low on the target. It is imperative that each arrow be released in the same manner and from exactly the same position at full draw in order to score consistently on the target.

Holding is the ability to maintain a fixed position at full draw for the interval of time necessary to sight on the target.

Aiming

Shoot with both eyes open. You need good visibility. Your right eye will govern as it is directly above the arrow shaft and instinctively the line of vision will follow along the line of the shaft. With the bow held vertically the line of vision will appear to pass between the bow string and the bow just slightly to the right of the bow string. Projected on the same vertical plane the bow string and the bow will appear in the position shown in Fig. VI with the line of sight passing between them approximately at point (a).

In the illustration a simple type of bow sight consisting of a strip of adhesive tape fixed to the belly of the bow into which a pin is inserted so that the head can be used as a sighting point is used to designate the line of sight to the target. For purpose of illustration the sight is shown attached to the belly of the bow; in actual use it is the practice to attach the sight to the back of the bow so that the bow string will not interfere with adjusting the pin for elevation and deflection.

Shooting free style this line of sight is determined by judgment gained only through practice.

Follow Through

The effort to hold the bow at full draw is considerable and it is natural for the archer to relax completely when the arrow is loosed. Self discipline is required at this time to insure that the stance and position is held until the arrow is speeded on its way to the target. The most common fault is to permit the bow arm to drop at the moment of release and before the arrow has left the bow. To guard against committing any error an archer should maintain the position at full draw until the arrow reaches the target. Aiming methods will be discussed in detail in the next article.

. . . *The End*



Muzzle Devices Pay Off

By Ed Shearer

EVER since man has been pursuing fur and feather with a scattergun he has been obsessed with the idea of having one gun for everything, that mythical all-around gun. In the last quarter century the search has grown hotter and many are the claims of writers, gun manufacturers and sportsmen in general, that they have found the "Holy Grail" of the shooting world.

The first big break the "all-arounders" received was the discovery of choke-boring by Fred Kimble in

the late Sixties. Then followed Greener's experiments in the early Seventies which confirmed the fact that patterns could be more or less controlled by the degrees of choke. Old shooting books and articles of the time loudly proclaimed that the millenium had arrived. With one barrel bored for close work and the other barrel choked for long range you were fixed for everything.

This seemed to fill the specifications until well after the turn of the century. The real truth of the matter was that with the amount of game in those days as compared with hunters, anyone who could hit the tail end of a bull with the proverbial shovel could kill enough game with any gun that would put a reasonable amount of shot in a reasonable amount of space at 25 yards, regardless of boring.

After the first World War the improvements in shotgun loads revealed some flaws in the boring theory of the double gun. While the new loadings did not increase the scattergun range to any great extent, they did give a new conception of uniformity. This uniformity made it possible for the average man to use the pattern board and find out just what his gun and load were giving him, and the results were startling to the all-arounders.

The first thing they found out was that the guns were not shooting according to the choke marked on the barrel. They learned that to vary the load was to vary the pattern, regardless of the boring. Then as game further decreased and shots came few and far between other factors such as gun weight, barrel length, etc. were seriously considered for the first time, and the all-around gun once more became a myth.

The birth of skeet shooting unwittingly gave us another push along the road toward the all-around gun. Almost from the start muzzle devices became a must for every skeet shooter. At first many of the boys used their field guns as this skeet was supposed to be the hunters dream. Shooting these fast traveling targets at close range from all angles the lads soon found out things about their field guns that years in the field failed to impress upon them. Chiefly, they wanted their pattern where they were shooting and not on a pattern board at 40 yards. The trap shooter learned years ago to shoot the one load that gave him the best pattern at the range he took his targets at. He simply experimented until he found the right load and stuck to it. Trap shooting being standardized as pattern conditions were concerned no muzzle device was ever needed.

But skeet showed the need of wide even patterns at close ranges and the demand for "shot spreaders" became so great that several appeared on the market within a short time.

Muzzle devices are classified by the patent office as compensators, muzzle brakes or pattern controllers according to the claims of their makers. The purpose of a muzzle device is to reduce recoil or control the pattern or both.

It has been proven out by the recoil pendulum, which accurately compares the recoil of guns, loads and devices, that maximum recoil reduction through the use of a muzzle devise runs about 30%. This means that a high velocity maximum 12 gauge load would have a recoil equivelent to a 12 gauge skeet load, in the same gun.

On the skeet field where you have a set range and the birds have a uniform flight the shooter can always judge the standard of his accuracy by the score board. On the other hand it is in the field, where no two shots are alike, that the worth of the compensator is judged by increased kills. They have been tried out by enough hunters over a sufficient period of time to eliminate flukes and to get a true impression of their worth. We can state at this time to the users of

pump and automatic shotguns* (which are now legal in Pennsylvania) that muzzle devices are a long step nearer to the all-around gun and well worth the added cost.

The usual barrel length with the device installed is usually 26 inches, sometimes 28 inches. The shorter barrels will handle much faster than the standard 30 inch barrel and most hunters will find it a great improvement on fast angling shots. This is just the opposite from trap shooting where the gun and body are positioned prior to the shot. This makes for a relatively slow steady swing. A survey of top skeet shooters shows the 26 inch length is about standard and this length is fine for upland shooting also.

There are a few points to keep in mind in having a muzzle device installed on your gun. The sighting plane has been shortened and the pitch has probably been changed, making the frontsight higher than it was on the standard gun. The gun will have the balance changed and have a much faster swing. Most guns shoot low with these devices. The only way to find out is with a pattern sheet and an aiming bull. Don't make the mistake of aiming at the bull in rifle fashion. Throw your gun on it and shoot as soon as the butt hits the shoulder, the same as you do in the field. Then, if the gun is shooting high or low any competent gunsmith can change the pitch of your stock, thus correcting the trouble.

The different types and makes of muzzle devices are as follows:

The *Cutts,* and the *Weaver* which is made under the Cutts Patent, act both as recoil reducers and pattern controls. They have six tubes in the 12 gauge giving various widths of patterns at different ranges. These tubes are changed with a wrench that comes with the set.

The *Power Pac* is another recoil compensator as well as a pattern control. It has three tubes in a set, long, medium and short range. They are also changed with a wrench.

The *Poly Choke* was not intended originally to reduce recoil, but to afford pattern control without the use of tubes. It works on the principle of an adjustable nozzle on a garden hose. It throws a wide pattern for short range and a long narrow pattern for long range. It has an adjustable sleeve with 9 graduations for different degrees of choke. A new model has been added which has a ventilated sleeve attached to the adjusting collar. This acts as a muzzle brake, reducing recoil and giving somewhat better patterns.

The *Shooting Master* looks similar to the Poly Choke and operates on the same system.

From a straight skeet standpoint probably the compensators with the tubes are the most efficient. From a field standpoint the adjustable sleeve type are far and away the best bet. You can instantly have any pattern you want as you walk through different types of cover, with no parts to lose or forget. It looks as though we're finally getting somewhere in our search for the all-around gun.

. . . *The End*

The world's largest sheep, the Argali, lands on his horns instead of on his feet, when he jumps.

* * *

The troublesome English "sparrow" is not a sparrow at all. He is a member of the weaver bird family of Europe.

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* Editor's note: Automatic shotguns are now legal for taking small game, predators or unprotected birds or animals when limited to 3-shot capacity.



The Whistle-Pig

By John. F. Blair

WE HAVE one member of the wildlife family that is listed as game, but does not have a friend among all the farmers with whom I am acquainted. That animal is the woodchuck, known more commonly to most of us as the groundhog, or whistle-pig. Most farmers are glad to have some of the other species of game on their land. They not only like to see them around, but are willing to share the pleasure of hunting them with their friends. Too many hunters wait until the opening day of small game season to make any contacts with the farmer and as a result drive around most of the day looking for a place that is not posted. The Game Commission, its officers, and the organized sportsmen are helping to keep many farms open to hunting, but when it comes to the final reckoning it is up to the individual to make his own peace with the land owner. That is how it should be, too.

Groundhog season is one time of the year when the much talked-of, striven-for farmer-sportsmen cooperation can be ideally put into effect. There are places over the State where groundhogs are so plentiful that they present quite a problem to the farmer. They are very industrious little fellows and like to build their homes near to food and the middle of a clover or alfalfa field—suits them fine, for that is tops on their menu. In a day's time they will dig a hole that a horse could very easily break a leg in during haying season or while playing in a pasture field. The area 25 feet around a groundhog hole has very little value for the farmer, as the groundhog keeps the clover eaten off. Unfortunately, the farmer is usually too busy to kill the groundhogs, but he will usually welcome a hunter for this purpose.

There are several popular ways of hunting groundhogs. One is the old time way of digging them out. In open season the hunter can dig them out in cultivated fields if he has the land owner's permission and fills in the hole afterwards.

The second way is by stalking them and killing them with a .22 caliber hollow-point. This is plenty of sport and requires some skill, especially with an old "pig." In this kind of hunting you locate the game, sometimes at quite a distance, and then by crawling through gullies or behind trees or in high grass work yourself to within rather short range of the quarry to make the kill. If you try to kill them at a great distance with a .22 many of them will be lost and die in the hole. When sitting watching a groundhog hole it is imperative, for the hunter's safety, that he wear plenty of red. It is surprising how much the head of a man or boy sitting in grass about 2 feet high looks like a groundhog from a little distance. Several hunters are killed each year in mistake for groundhogs in just this manner.

There is another way of hunting chucks that is becoming more popular each year. The hunters perch on a knoll where they can see over considerable area and use "souped-up rifles" that will fire a bullet up to about 4,000 feet per second, and are accurate from 300 to 400 yards. Some of them will wager on a kill at 500

yards. They load their own ammunition, in many instances, and have their rifles equipped with 10 to 20 power 'scopes. Most of these hunters are sportsmen and pick up each pig they kill, either using it themselves or giving it to some one who will.

There are a few hunters who drive the roads and shoot groundhogs for the fun of killing, not bothering to pick them up. It is certainly not the way of a sportsman or a conservationist to waste that good meat. It is also not to the liking of the farmer to have hunters shooting into fields containing livestock. Most any farmer will give permission to hunt groundhogs but he wants you to come to the house and ask first.

When properly cooked groundhog meat is delicious; I prefer it to rabbit or ringneck. Ma Bishop of Connellsville has cooked dozens of them and I can vouch for it they are not hard to take. Here is the way she does it:

Remove as much of the fat as possible. Be sure to get rid of the brown fat and kernels that are under the front leg and in the center of the hind leg. She does not save the rib part of the back as it is hard to fry—only the 4 legs and the back part of the back. After washing thoroughly, soak the pieces in salt water overnight. Parboil through two waters with an onion in the water and drop a teaspoon full of soda in the water the last few minutes it boils. Remove any brown scum that gathers on the water. When tender dip in beaten egg, roll in cracker crumbs and fry until it is brown. Served with good tossed salad dressed up with oil and vinegar and Italian bread—yow! One pig per person is the right portion.

There are approximately 250,000 groundhogs each dressing about 6 pounds, killed in Pennsylvania every year. That is a lot of good meat. Let's practice conservation by using it wisely.

. . . *The End*



SPORTSMEN HOLD ANNUAL LANDOWNERS DINNER

Because dogs are so illiterate that they can't tell the difference between a "No Hunting" and a "For Sale" sign, a group of Massachusetts hound owners has, for several years, been holding an annual dinner for the men across whose lands their dogs chase foxes, bobcats, and rabbits, the Wildlife Management Institute reports.

This get-together, sponsored by the Wachusett Hound Club of Fitchburg, has led to some of the finest sportsmen-farmer relationships to be found anywhere in the country. There is a minimum of local posting and a close understanding of the problems of one group by the other. Before this project was inaugurated, club members had been worried by the increasing closure of lands to hunting. The wide-ranging habits of foxes and bobcats when chased by dogs and the relatively small land holdings of individual farmers made the posting of even a few farms a serious threat to their sport. This annual meeting, now attended by hound men from all parts of New England, with the landowners as guests, stopped the posting movement in its tracks.

Since poor relationships between

hunters and landowners can be traced directly to misunderstandings and to the activities of the few criminals, boors, and fools found in any large cross-section of the American public, the dinners have given the farmers an exceptional opportunity to become acquainted with the true sportsman and his standards.

This simple and inexpensive method of furthering understanding between the sportsman and the man on whose lands he hunts could be used profitably by other organized groups, whether their chief activities involve hounds, bird dogs, retrievers, or still hunting.

Game Protector Estep Honored

The West End Hunting and Fishing Club of Berwick recently presented Game Protector Lou Estep with a certificate of merit in appreciation of his 17 years of outstanding service. Representatives of the club made the award at the Estep home, and on behalf of their organization expressed their heartiest thanks for his untiring efforts in promoting better hunting and fishing and in creating continued good will between the sportsmen and landowners in the area.

Penn Rod and Gun Club

The Penn Rod and Gun Club, of Hazleton, is understandably proud of its ladies' auxiliary. According to Joseph Lucia, chairman of the Game Committee, their's is the only ladies' auxiliary to a Pennsylvania sportsmen's club that is entirely devoted to the conservation of wildlife, propagation of game and the promotion of better sportsmanship among hunters, fisherman and outdoorsmen. The girls support the club whole-heartedly, even to the extent of contributing financially to the fund earmarked for stocking rabbits and ringnecks.

The purchase and release of 180 rabbits on open hunting grounds was a recent project of the Hazleton club, and plans for this summer include sponsoring a Junior Member at the Junior Conservation Camp at State College.

Consolidated Sportsmen

The annual spring banquet of the Consolidated Sportsmen of Lycoming County attracted 700 members and guests to the Elk's Auditorium in Williamsport this spring.

Distinguished guests included Thomas D. Frye, executive director of the Pennsylvania Game Commission, Richard F. Maize, secretary of the Pennsylvania Bureau of Mines, and several members of the Game and Fish Commissions.

Harold W. Beihler, prize committee chairman, presented awards for the largest fish caught by members during the 1950 season, and for deer with the most impressive racks of antlers.

This club is one of the largest of its kind in the state; its membership is expected to reach 12,000 this year.

Jonestown Fish and Game Association

Working hand in hand with the farmers, the Jonestown Fish and Game Association has been directly responsible for opening hundreds of acres to public hunting that were previously posted. The success of this movement is, in a great part, due to the club's offer to prosecute all hunters who damage property or otherwise undermine farmer-sportsman relations.

Highlight of the summer activities will be a pheasant-raising project aimed at releasing 1500 birds.





Conservation in the Schools

Dear Sir:

In reply to your letter I can say that I'll be only too happy to tell you how I am integrating conservation with the biology course at Union Township High School.

To begin with, conservation was brought into the biology course as a related subject about six years ago. At this time, and up until about three years ago, it was taught more by the lecture method on field trips and in the classroom than as factual subject from textbooks.

Three years ago an opportunity arose that has done more to "open up" the teaching of conservation in biology classes than any one factor. The boys of our community are active potential sportsmen, so I decided to start a Junior Sportsmen or Conservation Club. The response was spontaneous and in two weeks eighty-five boys were enrolled in the classes and club.

With school board approval and donation of twelve acres of land for club use, our program got under way. The ground was prepared for planting, and seedlings of pine, lespedeza and multiflora rose were ordered from the Dept. of Forest and Waters. Later fly tying, bait casting, fly casting, trapping and predator control, as well as other related outdoor subjects, were taken up.

The services of our shop course have been enlisted in building bird feeders and bird houses for erection in the club area. The biology classes are going to clean and maintain nature study paths in, around, and through the area. In addition, they are going to assist with the maintenance of the area, planting of food plots and improvement of cover.

At present I'm presenting the school board with a plan to acquire by purchase, solicitation or condemnation an adjoining area that can be developed into a community forest and nature study tract.

Several years ago I selected students from the biology classes and all but forced them to enter the Game Commission sponsored events in the Music and Forensic League. Fortunately, the four selected students took first in the local, first in the districts and qualified for the state finals. Last year we placed first in local and district competition, with Robert McConahy placing first in the state with his photograph of a deer entitled "Hunger." This year they actually begged to enter the contest.

The few good textbooks on conservation are almost prohibitive in cost for the budget of the average school district. So, I'm going to mimeograph the outline and basic portion of the course in syllabus form. It will be as all-inclusive as possible in so far as the "Big 5"—soil, minerals, forests, waters, and wildlife—are concerned. At its completion I'll forward a copy to your office in hopes that it will be of assistance to others.

In the meantime I might add that any teacher can build a good workable course from the following sources of materials—The Dept. of Forests and Waters, The Pennsylvania Game Commission, the Pennsylvania Fish Commission, the Pennsylvania Dept. of Commerce and the State Planning Board, the U. S. Dept. of Agriculture, Soil Conservation Service, the U. S. Dept. of Interior—

Fish and Wildlife Service, the National Fertilizer Association, and the American Forest Products Industries, Inc.

This spring we are embarking on a novel project that in time I hope will become state-wide where conditions permit. My biology classes have raised funds in conjunction with a few boys from our F. F. A. Chapter. This money will be used to erect and provide facilities for a pheasant raising project. Game Protector Hooper has approved our project and we are going ahead with facilities to rear 200 day-old chicks.

My thanks for the materials which you sent through the Game Commission. The FARMER AND WILDLIFE is one of the best publications I've seen. In the hands of farmer and vocational agriculture teachers it should be a fine medium for correcting the evils of intensive agriculture.

I personally feel that the introduction of this subject of conservation by our Department of Public Instruction is long overdue. They will undoubtedly introduce conservation education in the near future. In the meantime, teaching of this subject is the responsibility not only of the biology teachers but other teachers in the lower and higher grades. We must create a conservation consciousness in the minds of our students, and teach this subject to the best of our abilities, until a state-sponsored course is put into effect.

Sincerely yours,
W. T. Patterson,
New Castle, Pa.

To H . . . With Hunting

Dear Sir:

I am writing this letter because I am a very much disgusted hunter. Due to the fact that I shot an antlerless deer on the first day of the past season. I have been hunting deer for the past 16 years and I always spend the first week of deer season at a camp or hunting lodge with the intention of staying a week in the mountains and hunting the whole week. Having an antlerless deer season the first days of deer season is sure not fair to the fellows who hunt at camps or have camps. I certainly do not consider myself indifferent to the fact that deer herds must be kept in balance and that antlerless deer must be killed. I also realize that our Game Commission has a big job on its hands to regulate the killing of does. But since I think over how foolish I was to kill a button buck on the first day and then have time on my hands the remainder of the week, I surely do not wish to have another deer season like the past. Seasons like the one in 1950 will make the old Pennsylvania

---

ADVICE FOR PARENTS OF YOUNG SHOOTERS

A new booklet recently released should be a boon to the parents of the boy or girl who wants a gun. Prepared with the advice and counsel of authorities on the use of sporting arms, this pamphlet is designed to assist parents in arriving at their own conclusions regarding the age at which Junior is qualified to handle a gun safely and the pattern of training to follow.

The booklet also lists various posters and other available literature of interest to the shooter. To get your copy write to:

Sporting Arms and Ammunition Manufacturers' Institute
343 Lexington Avenue,
New York 16, N. Y.

Ask for the booklet:
What Every Parent Should Know When A Boy Or Girl Wants A Gun.

custom of deer hunting and driving deer a thing of the past. I am sure there are thousands of other hunters who also spend the first week or second week of the season with an organized camp and therefore even though the lucky fellow does get his deer on the first, second or third day he can always help his fellow hunters to drive deer the remainder of the week if he is on their camp roster. And certainly if the antlerless deer season was one day at the end of the first week and one day at the end of the season, there would be more does killed. The hunter who has spent four or five days hunting in one section would surely have a chance to kill the does he has passed up on days before while hunting bucks. To my way of thinking the deer herd of Pennsylvania can be classed as a deer crop, controlled by the Game Commission, appointed by the people. The buck is the prize and first crop of the deer herd. The doe is the controlling product or second crop. Now let's be thoughtful. Would it make very much sense to harvest a second crop before the first crop is taken? Let's make a season of the first crop and regulate the killing of the second crop accordingly.

I remain sincerely yours for better hunting in the best state,

HARRY ZELLERS
York

A GOOD SAFETY TIP

We would like to say thanks again to Mrs. Everett William of 128 Avenue L, Pittsburgh, Pa., who sent in this very good idea after reading our recent article on safety clothing in the field. She said in her letter that her husband and son are Pennsylvania Sportsmen and wear plenty of red, "the safety color" in the woods. To insure even greater safety for them she makes a pattern of their caps out of bright red oilcloth and sews this over their hunting caps. Mrs. Williams says that beside being brighter and plainly seen from a distance the cap is also waterproof.

She sends it along for others to use for greater safety for their loved ones in the field. How about whipping out one for your sportsman and incidentally for yourself if you go along with him occasionally when he goes afield. It would be a nice job for a lazy summer afternoon and it will be already for use when hunting season rolls around again.

———

The halibut is none other than the medieval English hail-butte, the holy flounder, which our ancestors made a practice of eating on occasions of religious observance.

* * *

Some crabs make slight sounds during their courting antics.

* * *

The only animal that is purple in color is the blesbok, a small South African antelope.

* * *

The eggs of the tinamou, a South American bird, are so shiny that the Indians often use them as mirrors.

* * *

The Helena's hummingbird of Cuba is the smallest bird in the world, length 2½ inches. The Calliope hummingbird is the smallest bird in the United States, length 3 inches.

* * *

Tiny green plants grow inside some one-celled animals, using up the vast gas produced by the animals. The plant, in return, produces oxygen and sugar, which helps the animal in which it grows to live.

* * *

The owl cannot move its eyes in their sockets but compensates by being able to rotate its head in a large arc of 273 degrees. Like other birds, the owl possesses good color vision.

Pennsylvania Official 1951 Open Seasons and Bag Limits

Federal Regulations on Waterfowl and other Migratory Game Birds may be secured from License Issuing Agents or Game Commission, when available)

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for bow hunting on October 15, small game on November 1 and buck hunting on December 3 will be 9:00 A. M. Otherwise, shooting hours daily are 7:00 A. M. to 5:00 P. M. but from July 2 to September 30 inclusive 6:00 A. M. to 7:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	**Day**	**Season**	**First Day**	**Last Day**
Bobwhite Quail	4	12	Nov. 1	Nov. 17
Hungarian Partridges	2	8	Nov. 1	Nov. 17
Ruffed Grouse	2	6	Nov. 1	Nov. 17
Wild Turkeys (see counties closed below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, males only	2	8	Nov. 1	Nov. 30
Rabbits, Cottontail	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black & Fox (combined)	4	20	Nov. 1	Nov. 30
Squirrels, Red (closed October only)	Unlimited		All months except Oct.	
Hares (Snowshoe Rabbits)	2	6	Dec. 24	Jan. 1, 1952
Raccoons, by individual or hunting party*	5		Oct. 15	Feb. 1, 1952
Raccoons, by trapping*		40	Oct. 15	Feb. 1, 1952
Woodchucks (Groundhogs)	5	Unlimited	1951: July 2 to Sept. 29 1952: July 1 to Sept. 30	
Grackles (closed October only)	Unlimited		All months except Oct.	
Bears, over one year old, by individual	1	1	Nov. 19	Nov. 24
Bears, as above, by hunting party of three or more	2	2	Nov. 19	Nov. 24
DEER Bow and Arrow Season—Male with two or more points to one antler (requires Hunting License and Special Archery License) by individual	1	1	Oct. 15	Oct. 27
Regular Season—Male with two or more points to one antler, by individual*			Dec. 3	Dec. 13
Antlerless Season—(requires Hunting License and Antlerless Deer License) by individuals*			Dec. 14	Dec. 15
NO OPEN SEASON—(Hen Pheasants, Cub Bears, Elk and Spike Bucks)				
FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected to Sept. 1, '52	
Minks and Otters	Unlimited		Nov. 5	Dec. 15
Muskrats	Unlimited		Dec. 1	Jan. 15, '52
Beavers (traps only), state-wide*	2	2	Feb. 15, '52	Mar. 1, '52

SPECIAL REGULATIONS*

POSSESSION AND TRANSPORTATION LIMITS of legally killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

TURKEYS, COUNTIES CLOSED TO HUNTING—Adams, Armstrong, Fayette, Greene, Mercer, Somerset, Venango, Westmoreland and York. In addition, that part of Cambria west of Highway Routes 271 and 56; that part of Cumberland south of U. S. Highway Route No. 11 to the west shore of the Susquehanna River; and that part of Franklin south and east of U. S. Highway Route No. 11 are closed.

RACCOONS—Hunting season begins at 7 A. M. on the first day, and ends at Noon on last day (see instructions below concerning trapping). May be hunted day or night, Sundays excepted. The season limit applies to hunting and trapping combined.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1951 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during bow and arrow season, issued only by Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued by County Treasurers and the Dept. of Revenue, Harrisburg, at a fee of $1.10, and valid only in the County for which issued. Farm occupants permitted by law to hunt without a license may also hunt for Antlerless Deer during the Antlerless Season on the same land as for other game. See Digest issud with hunting license for details. Under the law, no application for an Antlerless Deer License shall be approved, or license issued, to a non-resident prior to November 14, or after December 13, 1951.

BEAVERS—No trapping at Commission-posted dams. Non-residents may not trap beavers. One person may set, tend or operate 10 traps only. Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or water line to facilitate identification without disturbing traps. Pelts must be tagged within 10 days after season, and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers and raccoons not to be placed, taked or set before 7 A. M. on the first day of the open seasons. The season on the last date indicated for Trapping closes at 12 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (7-10-51)

REGULATIONS FOR UPLAND GAME FIXED BY PENNA. GAME COMMISSION AT MEETING JULY 5, 1951.

1951 HUNTING LICENSE IS VALID SEPT. 1, 1951 TO AUG. 31, 1952, BOTH DATES INCLUSIVE.

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PENNSYLVANIA

Game News



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THE STORY BEHIND THE COVER

GAME management today is a big time operation. It is both practical and scientific in the same way that good farming is modernly applied. Because it is a big time operation the hand tools of yester-year have been replaced by more efficient, time saving equipment such as the tree planter in operation above under the supervision of District Game Protector John Spencer of Schuylkill Haven.

These machines are being used efficiently on many of the Game Lands for planting trees around the borders of cleared areas which will be planted in buckwheat or other grain to provide outdoor cafeterias for wildlife. Such borders provide shade, good cover and prevent a minimum of water run-off where the slopes are steep. Seven of these machines are now in operation and thousands of food-bearing trees have been planted since their acquisition. As a result of this management practice forest game of all kinds will benefit tremendously, especially deer, wild turkeys, grouse and other woodland species. Border planting is just one of the management practices which are being conducted on the Game Lands to assure Pennsylvania's hunters the ultimate in outdoor enjoyment.

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Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

★

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I Want To Go With Dad

From now on the hunter in Pennsylvania will concentrate on two things—getting his equipment and his dog, if he has a dog—ready for the fall gunning season. He'll go to no ends and spare no time or expense to do both. His family will recognize the symptoms and secretly rejoice in his youthful exuberance. Such is the prelude to every hunting season. It is wonderful, it has that grand, and glorious feeling, but in too many instances it lacks several things. . . .

Sometimes it lacks a father's ability, as he fondly polishes gun and gear, to catch the glint of wistfulness in his son's eyes; it lacks a man's interest in others as, gun in hand and dog on leash, he enters his car amidst the admiring eyes of the neighborhood youngsters. Some of their fathers don't hunt; some "lost" their fathers. To them the man with the gun and dog is a hero—a mighty hunter. Actually he may be selfish, inconsiderate and thoughtless.

It is time for fathers and men who have no sons to realize that a boy slips out of the embryo stage rapidly and starts looking for more worlds to conquer. He has had his bats and balls, fishing rods, umbrella stave bows and home-made arrows, backyard huts and roast potatoes; now he wants to follow in the footsteps of the early pioneer, who with his trusty rifle helped mold this great country of ours. He wants to go huntin'. More than one heartsick lad has peeped from an upstairs window to see Dad hurry to the waiting car of eager companions. How thoughtless some fathers are! The boy wanted to go with Dad.

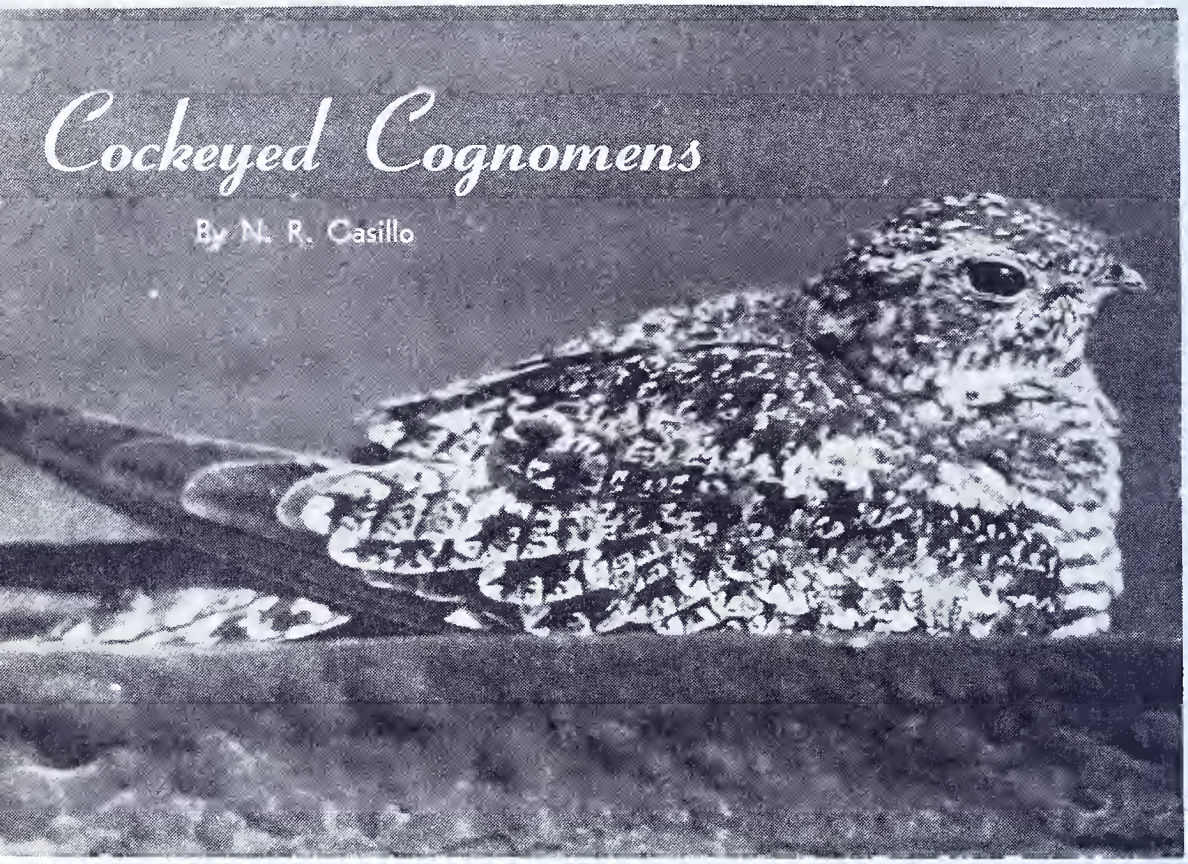
Now is the time for them to help their sons along the road to maturity—to the things which are wholesome and worthwhile. Now is the time for them to become the Daniel Boones, the Davy Crocketts and the Buffalo Bills. A boy likes to look up to his dad as the hero of his early life. From this worship he learns all that is good in nature and himself. The man who locks his boy out of his workshop or pleasure chest may some day lock him out of his heart. Don't make that terrible mistake. The boys of today are the men of tomorrow!

Teach your son how to hunt safely. Take him along on a hike in field and forest. Make a companion and conservationist of him. And when you arrive home from your work with only the shattered pieces of your hopes and dreams, just two magic words will repay you—"Hi Dad!"

DON'T NEGLECT TO TEACH THAT BOY THE THRILL OF SPORT THAT YOU ENJOY

Cockeyed Cognomens

By N. R. Casillo



PGC photo by Cady

This drowsy nighthawk seems unperturbed by the numerous colloquial names applied to him. Bull-bat, night-jar, mosquito hawk, pork and beans, burnt-land bird and will-o'-the-wisp are but a few.

WHILE doing my stint in draft registration headquarters a chap who came to my table registered as Buck Rogers.

"Nicknames won't do," I cautioned as I handed him a fresh card.

He looked at me in genuine dismay. Then, with a wry smile he said, "Well, I reckoned I'd have to write it sooner or later so this morning I freshened up my spelling." With that he laboriously wrote, *Nebuchadnezzer Rogers.*

A friend of mine changed his three given names to initials. The revamped name as he writes it is picturesque indeed, as witness, J. A. C. Kass. He's a problem case anyway since his first name is Jack.

When dealing with humans most of us are restricted by the dictates of decency, but our lavishness knows no bounds when bestowing names upon defenseless wild creatures. For example, the common ruddy duck in the United States and Canada is burdened with 92 distinct names. One state alone has 16 names for the surf scoter while another has 14 for the golden plover.

The immediately foregoing facts together with many more were unearthed because of the stimulus furnished by the tens of thousands of visitors who annually trek to the Pymatuning Migratory Waterfowl Museum which the Game Commission maintains along with the 3,670 acre refuge.

The singular fact that many of the birds on exhibition have a wide distribution has been impressed upon

me on numerous occasions by the unfamiliar and often queer names that many of the onlookers call them.

When four enthusiastic visitors clustered about the case containing specimens of both teals and mallards, and began calling them names in a language which to me sounded suspiciously like French, I cocked an attentive ear in their direction and finally sauntered over.

The quartet proved to be Cajuns hailing from the vicinity of the Atchafalaya river deep down in the bayou country of Louisana. The names used were, of course, French equivalents of the more familiar English forms together with quaintly descriptive ones of their own invention.

I won't soon forget the two avid duck hunters hailing from different parts of the country who paused before the scaup case to discuss the merits of the two species. One from down Florida way called the lesser species a canvasback while the other, a tall Texan, called it a booby. An agreeable smile was exchanged when the two simultaneously hit upon the generally accepted name of bluebill for the larger species.

A bystander who had listened to the exchange between the two finally couldn't stand it any longer. So, stepping up to them he declared that they were both wrong. "That there duck," he went on in a twangy dialect as he pointed to the greater scaup, "is a troop duck." And he too was right. The man was from Massachusetts where the greater scaup has that colloquial appellation attached to it.

The word most misused by the museum visitors is the name crane. Nine-tenths of them use it when they actually mean the heron, usually the great blue heron. However, many throw it loosely about and may mean anything from one of the larger shorebirds (which they probably confuse with the diminutive green heron) to the American egret. In one instance, a stray flamingo was termed a heron, an inaccuracy which almost resulted in our passing up that truly rare specimen.

On a Sunday afternoon in July a farmer and his wife and their brood of four or five children stepped out from the milling crowd to peer into a case containing three or four species of geese. Then, just as phlegmatically as though he was indicating the good points of a fine heifer, the farmer turned to his wife and said, "Why there's a duck like that un in our lower pasture."

I chanced to be passing by and therefore not only heard his remark, but also saw him pointing at a snow goose. Of course, the fellow is wrong, I mentally noted and was about to pass on when I thought better of it. People are funny, and when it comes to birds, most of them are exceedingly inaccurate. I walked over to the group and asked the man if I had heard him aright.

"Wal, I can't swear to it, but the duck that's taken up with our'n looks just like that un," he replied.

"Is it as large as this one?"

"Bigger, a lots bigger," declared Mrs. Farmer, beating her husband to the draw.

"Doesn't it make any attempt to fly away?" I asked again.

"No, not at all. The children have chased it more than onc't and all it does is just run along with the rest of the ducks," the lady obliged again.

"Well, if it's a snow goose it should be up on the Arctic coast," I absently muttered more or less to myself.

"But, it isn't," declared the sharp eared eldest boy. "It's down in our pasture."

A subsequent visit to the pasture resulted in my finding the ducks; a dozen or more of them guttering in a shallow run adjacent to a newly plowed field. But, the goose was no where about.

Disappointed, I carefully scruti-

nized the surrounding area without success and was about to turn away when over a slight rise in the plowed field appeared a pure white bird. Big as life it paused and carefully looked me over. There was no doubt about it. It was an adult snow goose. The pure white plumage accentuated by the black tipped wing primaries proved it beyond a doubt. But, what was it doing here in a western Pennsylvania pasture? Was its flight incapacitated by an injury? Had it remained behind with an injured mate that had subsequently died?

When, at last, the bird convinced itself that I was something to be avoided, it took off on strong pinions, circled gracefully to the left to alight on the southern extremity of the lower pasture.

And to think that the farmer on whose land the goose had chosen to stop called the noble fowl a duck. Yet, that simple name, given it because of its fancied resemblance to a white Pekin barnyard duck, was more descriptive than many that are in common local use. A few include, Alaska goose, Mexican goose, Canadian goose, red goose, Texas goose, wavy from the Indian soundname wa-wa, and oie blanche. Then, to make things even more bewildering, the most generally accepted name is white brant or simply brant. The name brant is also enjoyed by Hutchins goose, white-checked goose, and cackling goose. This, it could be said, approaches a state of affairs as thoroughly frustrating as the confusion of tongues.

As has been pointed out by a number of authorities, herein this country there probably is as fertile a field for local vernacular names of waterfowl as is to be found anywhere in the world. Not only has there been an abundance of game to attract veritable armies of hunters, but these hunters have sprung from nearly all of the numerous racial elements of our population. Accordingly, names have been derived from all of the principal European languages and adopted as well from all those used by various Indian and Eskimo tribes. Add to these those that the American gunner takes a delight in inventing, and you have a truly formidable mass of nomenclature.

Now, let's turn to that alleged ancestor of all domestic breeds of ducks with the exception of the Muscovy. The honor, as you doubtlessly have guessed, goes to the wild mallard. Because of its wide distribution there are no less than 25 names applied to it locally in North America alone. Honoring it as the ancestor of all domestic breeds, in the Northwest Territories it is called the stock duck. All around Lake Erie it is designated as the gray mallard. Here in Pennsylvania it is called wild duck. Other names include, twister, frosty-beak, ice breaker, duckinmallard, and yellowlegs. Among eastern gunners it is popularly and affectionately known as the greenhead.

Getting back to the ruddy duck and its 92 distinct vernacular names, it seems that something more than its wide distribution is responsible for its wealth of names since it is not nearly as widespread as the mallard. It may be because the ruddy is so distinctive. For example, while ducks pair up much like other birds and are not as a rule polygamous or polyandrous, the male is a philanderer, and abandons the female and all the family cares just as soon as incubation has begun. Not so the ruddy duck. As soon as the young are hatched, the male takes over and escorts the entire brood on all forays for food. All the while he continues the peculiar tactics that mark his courtship display during the breeding season.

So, the unusual habits together with its distinctive appearance are largely responsible for so many names being heaped upon the diminutive head of the ruddy. The

pert uptilted tail, the bull neck. the pugnaciously upturned turquoise bill mark him as one apart. Many of the names are descriptive of the comical appearance as well as the peculiarly odd actions of this species.

Some of the more picturesque names given the ruddy are: blather-skite (as well as half a dozen variants of the same), booby coot, bristletail, bumble-bee-buzzer, chunk duck, dinky, dummy duck, hickory head, Johnny Bull, sleepy coot, spatterer, steelhead, water partridge and many, many more, some of them actually charming in their vulgarity.

The names most common in Pennsylvania are descriptive of both the head and the tail, as witness, hard-head, steelhead, stifftail, and stiffy.

Names in general use are butterball, ruddy duck, or ruddy. Why the name bluebill is not generally applied to the ruddy is one of those mysteries of nomenclature, because there is nothing so strikingly blue as the male's bill during the breeding season.

The shorebirds are conceded to have among the longest migration routes, many of them going as far north as they can find land upon which to build their nests, and wintering in the southernmost reaches of the South American continent and adjacent coastal islands. Some shorebirds have names in common general use which show the wide distribution of the species. For example, over all of their vast range on this continent both the semipalmated and the least sandpipers are commonly called peeps. On the other hand, many more do not have general names, instead they are tagged by vernaculars peculiar to the localities which they visit.

One of the most common and widely distributed shorebirds is the spotted sandpiper, generally called tip-up. This little fellow has at least 30 local names, the most prevalent of which is teeter. However, other descriptive appellations include, bow-bird, gutter-snipe, pen-wipe, perk bird, teeter-peep, tilt, twitchet, steel-yard bird, sweeswee, and tater-snipe.



The snow goose is also called Alaska goose, Mexican goose, wavy, oie blanche and white brant.

Momentarily study the above names and see if they don't convey something that you yourself may have observed. In case you are not familiar with this little streamside denizen, some of the names may be sufficiently descriptive to help you identify it. Bow-bird, for example, describes its most familiar action. And, what about *sweeswee?* Haven't you heard that plaintive cry as the bird took off in alarm only to circle back and alight upon practically the same spot from where it was frightened? Oh, you may confuse it with several others which it resembles, but, what does it matter.

A rather common shorebird during migration is the red-backed sand-

piper. At Pymatuning it may be seen busily probing the muddy shallows most any time between early September and late October and even later. That trait of circling back as ascribed to the spotted sandpiper is even more characteristic of the red-backed species, a trait which has resulted in its acquiring a few uncomplimentary names. The two most often encountered are, simpleton, and dumb Joe. Other names include, blackheart, brant snipe, California peep, crooked-bill, little black-belly, winter-bird, and ouzel.

The woodcock is undoubtedly one of the best known migratory game birds. Note the wide variance of its names when broken down by states.

Alabama, hill partridge; *Connecticut,* little whistler, whistler; *Florida,* big snipe; *Louisiana,* becasse, becasse de nuit, becasse de bois; *Maine,* blind snipe; *Maryland,* hookumpake, night partridge; *Massachusetts,* little whistler, whistler; *Michigan,* timber-doodle (probably the most widely known of the colloquial names); *Missouri,* waldschnepfe (the German influence in certain parts of the state where these people have settled); *New Hampshire,* mud-hen, whistling snipe; *New Jersey,* bog-sucker, mud snipe, wood snipe; *New York,* blind snipe, wood snipe; *North Carolina,* night-flit, night-peck; *Pennsylvania,* bog-bird, bog-sucker, bushschnip (Penna. Dutch), mud snipe, shrups, wood snipe; *Virginia,* mountain-partridge, night partridge, pewee, wood snipe.

Note that Pennsylvania has more names for the woodcock than any other state. This cannot be entirely attributed to the comparatively large number of states bordering it, since three of the names occur in none of the other states listed.

Maine is the state that gave the surf scoter 16 of its names while Massachusetts cooked up only two less of the golden plover. The taciturn Yankee seem to have exceeded themselves.

If a compilation of the vernacular names of migratory game birds was to be made today, we would, no doubt, find a vastly different picture. The tremendous amount of travel incidental to the conduction of one war and the attempt to avoid another, has thrown our men into close contact with others of many lands. And regardless of from where they hail, confirmed duck hunters are forceful characters with a flair for the unusual and always on the lookout for it.

It's a safe bet that the interminable bull sessions which take place in barracks scattered from Nome to Timbuktu, include hunting, and because of its universal popularity, much of it duck hunting. I personally have listened to several G. I. accounts of duck hunts having taken place in the Philippines, Japan, China, and Germany. One fellow who had hunted in the vicinity of Moselle up on the French-German border concluded his yarn by declaring that he had succeeded in bagging a brace of *sour sals.* His subsequent description of the heretofore unheard-of ducks disclosed them as blue-winged teal. His sour sal was a mutilation of the word *sarcelle,* the French for teal.

The foregoing anecdote is mindful of another which illustrates the part played by apparently unrelated things or circumstances in the creation and development of vernacular names. In Louisiana the green-winged teal is called the congo or congotte, the latter usually misspelled cognotte. This smallest of ducks derived its Cajun equivalents from the fact that Congo slaves were the smallest brought to the New Orleans market!

So, you see it's a cockeyed business. And this world-wide intermingling of service men, whom, it is safe to say, are also largely sportsmen, is likely to make the situation so hopelessly confused as to make it necessary to start all over again. But, look at the fun we'll have.

. . . *The End*

Tally Ho!



By L. J. Gorske

TALLY-HO! That's the familiar cry heard by anyone attending a Beagle field trial. This sport is increasing each year by leaps and bounds. In 1947 there were a total of 135 licensed trials with 24,035 starters and since that time the popularity of Beagle trials has increased tremendously. Pennsylvania leads with the most Beagle clubs organized.

This little hound in every sense of the word is the working man's gun and field trial dog. The cost of feeding and care are very low and entry fees for trials are also kept to a minimum. Due to the dog's tremendous popularity, training areas have been established throughout the country. These areas are protected and well stocked with rabbits each year.

Field trials are held for two classes of dogs, 13 inch and 15 inch, which denotes their height at the shoulders as measured with an official measuring stand. There are three types of field trials sanctioned by the American Kennel Club—licensed trials, where a dog may acquire points towards becoming a field champion, and Class A and B sanction trials where a dog does not receive any points. One hundred and twenty points and three first places are required to become a field champion, these to be accumulated in licensed trials only. Points are given on a percentage basis according to the number of dogs entered in a class. For example fifty dogs entered would give first place a total of fifty points

and second, third and fourth would receive one-half point, one-third point and one-fourth point.

Dogs are run in braces which are drawn at random before the trial. They are judged for their ability to trail and drive a rabbit. Voice, endurance, starting ability, style and obedience are also principle points of merit; running in a hit-or-miss style is definitely out. Most judges look for a hound that is close and clean, one that holds a true line.

Where voice is concerned there are ordinarily two types of hounds, the bawler and the chopper. The bawling type is a hound that lifts its head when giving tongue. The chopper keeps its nose to the ground at all times when chasing a rabbit. Most field trial followers prefer the chopper because it will hold a line steadier and have fewer checks.

Selecting a Beagle for field trial competition is something that requires a lot of checking on the background of the sire and dam. Were they winners themselves, and if so, how consistently? Many think that because the sire was a field champion, any bitch bred to such a dog will produce a litter of field champions. This happens very seldom. There are few consistent producers of field champions. One of the greatest being Fd. Ch. Grays Linesman who has produced to date thirty-two field champions, a record which is double that of his nearest competitor, Fd. Ch. Sammy R. Therefore, by breeding a good bitch to such a sire, chances are that another field champion will be born.

Opinions differ among beagle men as to when a puppy should be taken out in the field to start its training. Anywhere from four to nine months is the general opinion, but most handlers agree that starting too early will develop faults which later will be difficult to correct. A puppy is somewhat like a child—let him have his fun and play before serious training starts.

There are several methods used by handlers to teach their young hounds to trail. Dragging a piece of meat around the yard and letting the pups hunt for their supper is one helpful method in teaching a hound to use its nose. A freshly killed rabbit is another. When finding the rabbit let them play and maul it around a little, that helps put the drive in a good hound when he is on a hot line. Once he starts to tongue and give chase on live game, work him as much as possible to keep him interested. A hound should be running fairly well alone before it is taken out with a more experienced one, and be careful what type of experienced hound it runs with. A good pup can be ruined by running it with an older dog that is too fast, for a young hound will tend to cheat in order to keep up. Once taught to hark in with a bracement, start running him alone again. If run too much with an older and more experienced hound it will begin to depend a great deal on the actions of the older dog.

The greatest fault a hound can develop is to quit when the going gets tough; in the Beagle world there is no excuse for a quitter. The first sign of this trait should be remedied by the handler at once by following him, urging him to pick up the line again and praising him if he does so. This procedure must be kept up if the hound shows a tendency to continue to quit. Beagles respond better to kindness and encouragement than they do to punishment and reprimand. Improper handling has been the cause of a good many young hound's falling by the wayside in its early days of training. A very patient person most always makes a good handler of dogs. Praise is another prime requisite. After a good run praise that little hound when he returns, it will pay off a hundred percent in developing a good one.

. . . The End

Outdoor Reveries



By John H. Day

The Stuff of Boyhood

A BARRED owl hooted from the valley depths edging the deep woodland. It was a sort of questioning hoot, echoing mournfully through the darkened timberland. Suddenly, as though in answer, came the plaintive call of the wood pewee from the deep coverts far up the steep hillside. A whip-poor-will joined in from a roadside resort farther down the valley, shattering the quiet of the late gloaming with a few rapid pronouncements.

A trained ear would instantly have noted that of the three vocalists only the stacatto music of the whip-poor-will was genuine. The hooting of the barred owl and the unusual night singing of the pewee were patently man-made imitations. Happily there were no trained outdoorsmen handy to break the spell. This deep-woods night music was intended only for the ears of some 50 youngsters, of 12 years and under, who stood in silent Indian file on the trail by the wide stream edging the timberland.

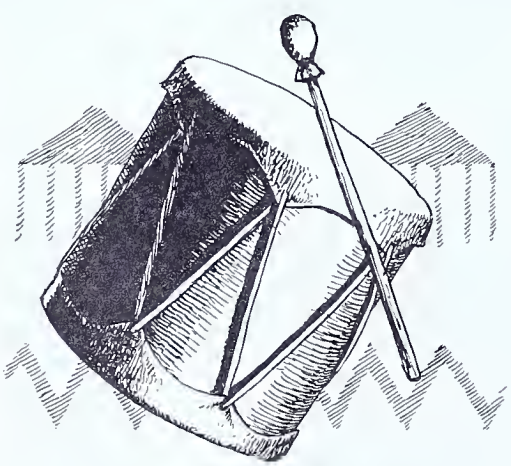
The owl spoke again from the thickets. Now a new sound came down through the dark forest aisles to tingle the spines of those 50 bug-eyed kids. It was the rhythmic throbbing of an Indian drum, accenting in measured tempo the fearsome mystery of the night and the unknown trail ahead. At a quiet word from the leader the line moved, proceeding slowly, each youngster falling in at ten-foot intervals.

Completely blacked out, the file felt its way along the pitchdark trail.

All talking was banned. The only sounds were the occasional snapping of a twig and a faint splashing as the group stumbled across the creek. The trail careened sharply up the hillside, making a switchback progression toward the throbbing drum. By the bole of a great forest tree stood an erect figure, clad only in breech clout, silently scanning each member of the passing party.

Finally the trail wound its way onto a "bench" not half way to the ridge. Here some earlier axe work had cleared a small area and a rustic Indian council circle had been constructed. Silently the neophytes came up the dark trail and filed, wide-eyed, into this split log circle. The drum had stopped its singing, but the dim starlight revealed four silent figures standing, arms folded, about a central fire place, with logs fresh-laid and ready for the torch. Other mysterious figures, scantily garbed, stood erect and silent before the chief's seat.

This is the real stuff of boyhood—the kind of outdoor pageantry which delights the soul of every normal youngster. During that eerie half hour on the darksome trail every one of those kids was at heart a savage redskin, en route to make big talk at a war council deep in the forest.



Panthers lurked there in the shadows and the evil ghost of renegade Simon Girty lay in camp across the ridge.

In the dim light of the council circle the brave warriors took their places and stood quietly. At a signal from the chief all hands were raised to the skies and the Omaha prayer to Wakonda was solemnly sung. Promptly the torch was applied and the great central fire, well spiked with kerosene, roared into full brilliant blaze, driving back the encircling shadows and revealing a motley crew of the wildest looking Indians to ever sit in high council in that historic valley.

The firelight disclosed four youths, stripped to the waist, standing before four compass fires set properly about the central fire. In turn each of these young chieftains fired a torch at the great central fire of Wakonda, then impressively lighted the four smaller fires of virtue, truth, courage and love. At this juncture the Medicine Man rose up and opened the council with the necessary smoke offerings to the four winds.

With thus, the tribal ceremonies were ended and the small circle there on the wooded hillside became a song-fest, followed by campfire stunts and the eager roasting of fat "hot dogs" on long whittled switches. At scheduled bunk-time the whole group stood in silent prayer, as the bright stars winked down at the dying embers of the fire. Then the return journey down the trail, this time with all flashlights going, and a tired rush for bunks and warm blankets.

There is a great deal of the small boy in every man who loves the outdoors. At some inconvenience to his own schedules he will travel great distances and exert great effort just to help make certain a gang of swell kids gets a full share of the decent thrills of boyhood. Mosquitoes are tough on the naked epidermis and you feel sort of silly playing the role of an Indian sachem but it's worth

it just to watch those kids come Indian filing up that trail and sidling cautiously into the council circle.

That big coppery red butterfly you see floating idly across the highway before your car these sunny Fall days is one of the most interesting citizens of the wayside—and one of the most widely traveled. When the September calendar unveils the autumnal equinox this Monarch of the skies takes the hint and moves out bag and baggage, following the sun south to Winter quarters in the tropics and the Gulf states. The mysterious drive of instinct sends him winging on that migratory trail just as surely as the same force pushes the waves of feathered migrants back and forth in seasonal moves.

During the height of the summer the Monarch can be found in any pasture lot, especially where the common milkweed has staked out a claim. Every countryman knows him by his rich red coloration, his strong, black-bordering wings with their black veins. Every bird knows him too, and lets him strictly alone. He carries a scent bag on each hind wing which dispenses an odor so disagreeable to the bird who would make a meal of him that he goes free.

With the bird problem eliminated the Monarch is free to enjoy life in a lazy, leisurely manner. His manner of flight is very different from the twisting dodging movement of other butterflies. He loafs idly about the wild flower gardens "seeing only what is fair, sipping only what is sweet."

Unlike most other butterflies, who get through the cold months by various means, this big red fellow can't stand frost. If he did not make the long journey south each fall we would have no Monarchs in the pastures, and would not know the thrill of finding his jewel casket chrysalis—that jade green gem decorated with shining flecks of gold. That's why you see him abroad before your car, like a red autumn leaf sliding down the token zephyrs of October.

The Monarch is a many-brooded creature, which makes these long sky hops all the more remarkable, since the Fall migrants include none of the eager fellows who pressed northward early in the season. It may be that knowledge of the route they must follow is bred in the marrow of their butterfly bones by the use of a million generations. It's more probable that they simply drift away from the cooling winds toward the southern sun that shines so serenely in the bright autmn days.



Watch the next one you see loafing along before your car. He may seem to be drifting along aimlessly, but when you sort out his movements they are ever toward the south. What a twang this gleaming jewel of the air gives to the fine heartstrings of romance!

My sable friends, the crows, seem to have weathered the vicissitudes of the Summer rather successfully. Despite the continual barrage of gunfire poured at them by nimrods equipped with crow calls and stuffed owls, they were able to muster a whole battalion on the heights behind our house the other day. Amid a gladsome clamor and many aerial

sorties they renewed old acquaintance and laid plans for their Winter encampments.

Now that family cares are over and the youngsters have reached an age of discretion, life for old Corvus becomes one long holiday. The shorn meadows and close-cropped pastures swarm with grasshoppers. Field and forest offer abundant fruits. He saunters carelessly on sagging wing from chosen field to chosen wood and at nightfall takes his ease in some carefully selected rookery, surrounded by his fellows.

Each year we can count on playing host to this September gathering of the tribes. At the first signal, as suddenly and as mysteriously as the merry men appeared at the winding of Robin Hood's horn, the black clansmen rally from every quarter of the greenwood, to sit in high council and discuss at vociferous length all proposals put forth for the good of the order.

I spent a long half hour one recent humid afternoon visting with some of the thousands of tireless workers who own and operate the wild honey concession in a certain gigantic old white oak. Surely a majestic "bee three," this old-timer stands on a cleared slope just above a small pool. Guided by scouts who had found the cavity in the great bole of the aging tree, the eager swarmers had established their queen in residence and were booming along at a lively clip which indicated a strong, healthy colony and many pounds of delicious honey put down for the Winter in those dark recesses.

The workers were using three entries, all close to the ground. The main entrance was jammed with a continuous flow of traffic, most marvelous to behold. Out came an endless stream of bees assigned to the supply service. Once through the mad whirl at the entry they were off and away for the pollen field, or the nectar pots, or the water supply.

Down from the crowded air lanes came the laden workers, little freebooters returning with loot pilfered from many an obliging aster or goldenrod, or bringing water from a nearby spring run. The pollen bearers swaggered in like cowboys wearing yellow or red chaps, according to where they had filled their pollen sacks. Once inside they went to the proper cell, kicked off the pollen as a man kicks off his boots, and hurried afield once more, leaving further handling of the pollen to an inside worker.

The honeybee has one ambition. He wants to be rich, and he works mightily during his span of life to lay up the stores which make for wealth in the honey industry. Production and more production is his credo, with never a complaint as to working hours, lunch periods or five-day weeks. When the weather permits he works from dawn to dusk afield and helps with necessary chores inside during the dark hours

The countryman finds the doings of the wild bees a most fascinating study. Philosophers and sermonizers can learn much from these little republicans. As I spied on their busy landing platform a committee of two brought out a dead worker, hauled her to the edge and dropped her lifeless body clear of the entrance. A distant roll of thunder and a sudden lowering sky brought the workers in pell mell from the fields. When I moved on the traffic jam in that small entry-way seemed a hopeless snarl.

Perhaps my taste is purely plebian, but I prefer the sun-tanned buckwheat honey above the so-called clover and other white honeys sold in the markets. The distilled buckwheat nectar is a little robust, but it has character to tempt the taste of the true countryman, especially on a frosty morning when buckwheat cakes brown on the griddle and tender sausage sizzles on the plate.

. . . The End

Reload To Keep Shooting

PART II

By Ed Shearer

Pressure is the keystone of reloading successful ammunition. It is essential to control the burning speed of powder and is the throttle which brings all elements of the load into perfect harmony that must be attained for fine accuracy. Like all forms of energy that man has harnessed to his own needs it is a work horse that must be used intelligently or in an unguarded moment it may kick your head off. Thus at the outset let it be thoroughly understood that, not only the accuracy of your cartridge, but the very safety of ourselves and our shooting companions depends to the degree of our knowledge and application of pressure.

The weak point in modern ammunition is the cartridge case. Our modern bolt actions will stand far more pressure than the case. Cartridge case brass has shown but little improvement in the last 40 years, but it is a different story with the actions. For example, a modern, heat-treated Springfield has successfully withstood a pressure of 110,000 pounds per square inch with specially made cases. No standard brass cartridge case would even approach this figure; I was informed by Charley Hogue of Frankfort Arsenal that 57,000 pounds per square inch pressure was about the limit of the case and it took good brass at that. This was 15 years ago and brass has not improved to any extent since then.

Some 50 years ago ruptured cases were of common occurrence even with the low pressure loadings of the day. This was just as apt to occur with new shells as those which had been reloaded many times. As often happended the extractor would sometimes pull the head off the case, leaving the shooter a nice problem. No shooter's equipment was complete in those days without a broken shell extractor. However, as the pressures of that time were low, and black powder almost universally used, serious damage seldom occurred.

Today we have a totally different picture, as pressures run very high. When a case lets go and 50,000 to 55,000 pounds per square inch of compressed gas goes gallopin' through the action something *IS* going to happen. In a well constructed bolt gun the bolt generally holds but it messes up the rest of the gun—and the shooters eye if he is not wearing glasses. Unfortunately, high velocity and high pressures are Siamese twins and must be taken together.

The present method of taking breech pressure is far from being accurate. Probably in the next few years the ballistics boys will iron out the kinks and make high velocity loading fairly safe for the run of the mine reloader who has no laboratory at his disposal. But as matters stand the average man who persists in playing with high pressures in today's cartridge cases is due for disaster sooner or later.

In hand loading, the data we receive comes from the DuPont or Hercules laboratories. These figures are arrived at with extreme care. The loads recommended by these sources for a particular cartridge are perfectly safe in the maximum power bracket *ONLY* when used in proper guns.

The joker is—it's distinctly up to

the reloader to determine whether his is a proper gun. There are two ways to handle this. One is to stay away from these loads, which is by far the best advice. Second is, don't try maximum pressure loads until you're sure that your gun will handle them without difficulty. A bolt action gun does not always mean strength. There are many kinds of bolt action guns floating around that are no stronger than lever actions. Putting a maximum charge in one of these guns might give the shooter a bad time. He should look his gun over very carefully. If it breeches up tight you are probably half safe which is not safe at all.

What is the condition of the firing pin or striker? Will it explode the primers without the danger of a puncture? Possibly the firing pin hole in the breech block is worn too large for the pin. The primers should be watched carefully, although they will not tell you how much pressure you are getting. But if the primers blow back into the firing pin hole in the breech face you can figure that no matter what the actual pressure is, that load is unhealthy in that particular gun. It might need a change in primers or a trip to a competent gunsmith.

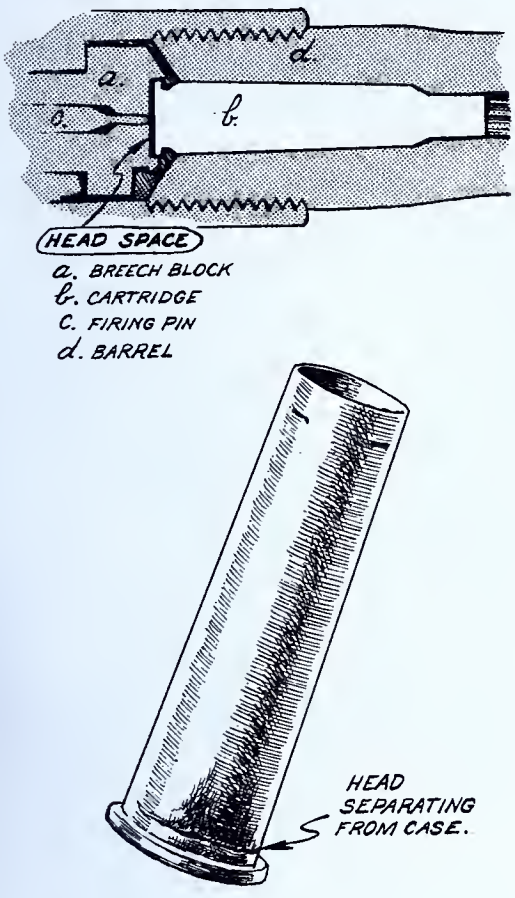
In dealing with pressures the matter of headspace in rifle actions plays a big part. Here we deal with mechanical headspace in the action itself caused by faulty adjustment by the maker or by subsequent wear in use. Headspace caused by reloading will be taken up under cases.

"What is headspace?" is a question so often asked by shooters. Primarily headspace is the distance between the face of the breech block and the head of the cartridge case, when the action is closed. The perfect gun should have no headspace whatever. But from a manufacturer's standpoint it is impossible to make cartridge cases that will not vary, at a price anyone short of a millionaire could afford. Even so cartridge case tolerences are very small, staying within .003 or .004 of an inch.

The chambering of the barrel is also held within close tolerances that are well standardized today in our better makes. If your gun was made 25 or 30 years ago there was quite a variation in cartridge case sizes, and most chambers were oversize. This must be taken into consideration in reloading and is one reason why a safe, accurate load in one gun of the same caliber may not prove satisfactory in another gun of same make and caliber. If a cartridge case is small for the chamber it will enter more deeply and headspace will be increased. This is not always the case as the extractor may stop it as the hook contacts the rim. In this case the amount of depth is controlled by the play or wear of the extractor. Now, in firing, the cartridge case is driven forward by the force of the firing pin until the walls of the chamber or the extractor stops it. If the extractor stops it the case is tipped as the hook bites into one side only, and accuracy suffers accordingly.

The reason headspace may be dangerous is best answered by what takes place in the chamber when the gun is fired. At the instant of firing the powder is converted into gas at tremendous pressure. According to the laws of physics any force exerted is equal in all directions. The force of the firing pin blow drives the cartridge to full depth in the chamber before the primer ignites. The nearly instantaneous creation of pressure expands the cartridge case so that it completely fills the chamber. The pressure on the walls of the cartridge case causes it to cling tightly to the walls of the chamber.

Now assume at this point that your headspace is .004, which is a normal amount of clearance. The cartridge case cannot move backward due to the tremendous pressure against the



Top: Diagram of cartridge in breech showing headspace.

Bottom: Cartridge case showing head separation due to excessive headspace.

chamber walls. The case head is unsupported, with the result that the case stretches until the head is stopped by the breech face.

Now this stretch of brass with normal headspace is reasonable and the elastic brass case easily takes care of this, but if excessive headspace would allow the case to stretch twice that amount there is a possibility of the case rupturing. The result would be the spilling of the surplus of hot gases into the breech of the gun. At this high pressure the damage might be very serious, but generally the action of a modern bolt gun will hold. It's for this emergency that late model guns have a gas port drilled into the receiver to carry off escaping gas.

I have known many fine rifles shattered through the stock, the gas running down through the magazine blowing out the magazine floor plate, the trigger guard, and sometimes rupturing the breech itself. These accidents are not common but should always be considered by the shooter in loading maximum loads. In case of doubt, your rifle should be checked for headspace by a competent gunsmith.

. . . To be Continued

MAKE-DO'S AND SUBSTITUTES—SAFE AND UNSAFE

By Dr. Henry M. Stebbins

Very old black powder ammunition may have powder grains so pulverized by loading pressure as to almost detonate on firing. Substitute fresh black powder. Smokeless ammunition usually loses strength from age, unless it's kept near excessive heat. Then it's dangerous.

Old cartridges may have split necks, decomposed powder, and weak or dead primers. Salvage the bullets. Sometimes powder, primers or brass is worth saving.

World War II German 7.92 m/m ammo is unsafe in old but good German 7-7 sporters and army rifles. (Both these sizes are called 8 m/m here.) Find the rifle's groove diameter by driving a tight lead slug through the bore, and use no jacketed bullets more than .002 inch over this diameter. American factory made 8 m/m Mauser ammunition with 170 grain bullets is safe in good, sound 7-7 and 7.92 Mausers. Excellent deer load!

Never attempt to dissect or fire explosive or tracer military ammunition.

If bullet tip or body, or the case, bears any peculiar, colored marking, and if the original cardboard box cannot be found and its label translated, sink the stuff in deep, still water. Marking codes vary. Beware too of special foreign machine gun ammunition loaded beyond pressures safe in rifles or pistols.

Long shotgun shells are dangerous in short chambers: 2¾ inch 20 gauge in 2½ inch chambers, 2¾ inch 16 in 2-9/16 inch, etc. If in doubt, open a shell and take its full-length measurement. Most long-chambered guns are so stamped.

(More of these Next Month)



Pennsylvania Wildlife Conservation History

CHAPTER 1

FINANCE

WHEN man sets himself a goal and wholeheartedly goes after it nothing can deter him. Step by step he climbs nearer the ideal, no matter what the stumbling blocks may be that line the path to eventual attainment.

So it was with the men who formed the first commission. They were appointed on November 17, 1896, but no provisions were made for any appropriations to carry out the job they had been allotted.

True to form, that small matter did not deter these men from the accomplishment of their appointed task. If those early day politicians thought to discourage the whole idea by withholding financial aid, they soon learned that they had miscalculated the sincerity of purpose that stems from idealism and that it is almost impossible to undo the hitch men use when they attach their wagon to a star. The Commissioners simply dug down into their jeans, paying their own expenses until it hurt, then they buttonholed their friends or anyone they found with an interest in preserving wildlife. In this manner they "squeezed" through until 1897, when after a hard fight they were appropriated the munificent sum of $800 from the general revenue by a reticent assembly. This money was earmarked for postage and express only, and would have to last for two years. When the assembly met again in '99 they again grudgingly donated another $800 for the next two years.

The Commissioners continued to beg, cajole and donate sufficient funds in addition to the meager allotment to get a job done. At least they made sufficient headway so that by the time the assembly met in 1901 they received greater recognition and this time came out of the fray with the lush sum of $3,000. Even with this much in the treasury the men continued to pay their own expenses and donate additional funds to carry on the ever increasing program.

In 1905 the ante was raised to $20,000 and that sum was doubled in 1907. The 1909 assembly raised the appropriations to $60,200 but in 1911 they were back to $55,200 and raised again in 1913 to $97,400.

Getting these appropriations through the Legislature took a great deal of political maneuvering and battling on the part of the Commission. It greatly handicapped their efforts and placed them in an untenable position. This, together with the fact that dependable financial assistance to do the job right was entirely lacking, brought about the necessity of finding a new approach to the problem.

From this situation was born the idea of a hunter's license fee as a means of financing the program. The more the Commission demonstrated their ability, enlarged their program and produced tangible results, the more the idea gained in popularity and the greater became the desire on the part of the sportsmen and the Commission to become self supporting.

Finally after a "knock-down, drag-out" battle, they succeeded in getting the Hunter's License Act through the Legislature in 1913 and that same assembly made the last appropriation from the general fund for the use of the Commission.

While the special fund was now established, none of the money collected became available for use to the Commission until June 1, 1915. At that time the Assembly made a specific appropriation from the Hunter's License Fund for the Commission's program. That year the hunters finally attained their own income and became self-supporting.

The original law was amended in July 1917, establishing the Game fund by which it is still known and making all monies available to the Game Commission as soon as paid into the State Treasury, without the necessity of action on the part of the

Legislature. Also contained in the amendment, was the provision for including the balance remaining in the fund at the time of the passage of the amendment.

Since the day on June 1, 1915, not one dollar of the taxpayer's money has gone into the Game Fund or the support of the commission. All the work of the commission is carried on by the sportsman's money paid in license fees.

The conservation measures applied by the Commission more than justified the ideas they had held and they proved their points one by one. Mass murder of game went out the window and was replaced by a controlled harvest. Sending wild game to the market by the barrel became a thing of the past and species almost anihilated by this method were protected and began to increase in numbers. Deer were imported into the state in an attempt to re-establish the game animal that had once been so plentiful but had been reduced almost to the zero mark.

As the game came back, hunting became a sport instead of a slaughter. More and more hunters joined the parade to the great outdoors in enjoyment of this healthful, recreational sport that provided tasty dishes for their tables. As the game increased the hunters increased and by the time the 1920-21 season rolled around some 433,965 hunters paid $438,591.50 into their till. They were a going concern now.

Since that time, the number of hunters in the field has more than doubled and today approximately a million hunters participate in the hunting season. Actual figures for the 1948-49 season placed 882,925 licensed hunters in the field which provided the commission with a working capital of $2,037,917.34 from all sources, which includes proceeds from timbering, fines for violations, etc.

Handling and administration of such sizeable funds are usually well regulated. This is especially true of the Game Fund. Under the procedure set up by law the Game Commission is required to submit a budget every even numbered year, to the Budget Secretary of the Commonwealth. The Secretary has the power to make inquiries and investigation into the financial needs, expenditures, estimates of revenues and other factors contingent to sound budgeting. He may approve or disapprove the proposed budget or alter the estimate of income. After it is reviewed by the Secretary, the budget is submitted to the Governor, who then submits it to the General Assembly and it is open to the Legislature and the general public for their scrutiny and information.

In addition, it is necessary that the Commission submit detailed estimates for each six-month period and the Budget Secretary maintains control of the expenditures within the budgeted amounts.

Once the budget has been approved the Commission may not lawfully make any expenditures not contained in the budget regardless of the exigency, until the budget is revised with the approval of the Governor.

The Auditor General of the State is required to make at least one audit each year of the affairs of the Commission. All bills are checked by the Auditor General and the State Treasurer as to their legality and reasonableness before payment can be made on any expenses incurred by the Commission, and all bills are paid by draft drawn by the State Treasurer.

From this it can be readily seen that every precaution and check has been thrown around the Sportsmen's Game Fund in order to insure the proper administration and assure its legal use.

The greater part of the income of the Commission is obtained during the eight month license period from October first until May thirty-first,

while little if any income is derived during the months of June, July, August and September. Therefore, in order to assure sound financial management, the Commission sets aside sufficient funds to pay bills incurred during this low income period when work must be carried on regardless of fluctuation of income. To accomplish this well balanced financial pattern they carry a cash balance of approximately a million dollars as operating expenses into the beginning of each fiscal or operating year.

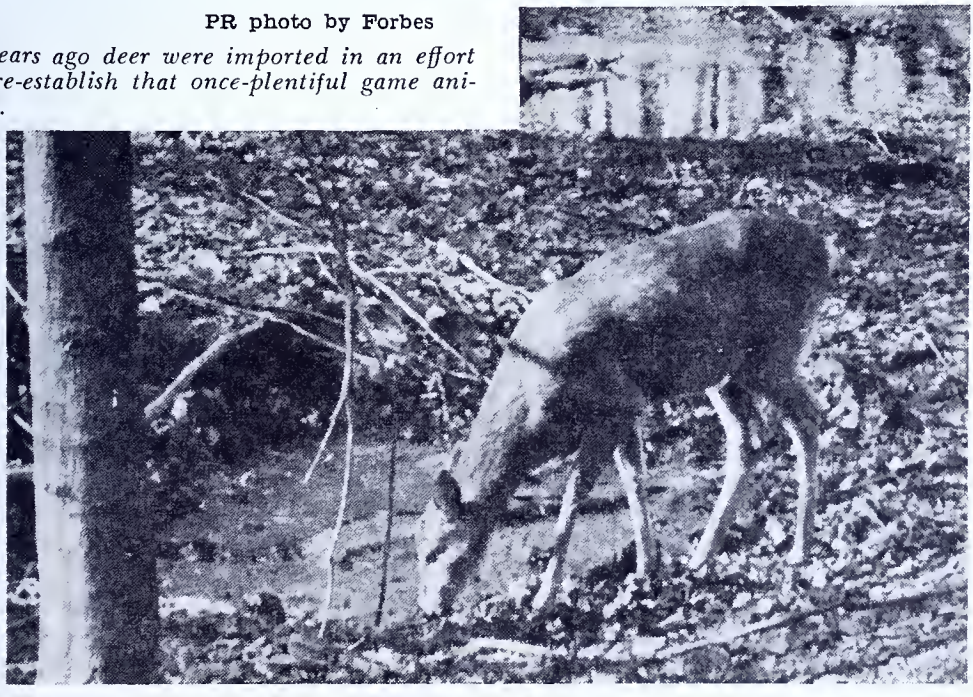
It must be remembered that the Commission has no means or authority by which it can borrow money at any time, regardless of the seriousness or needs of any emergency. Since this is true, it makes it all the more important that the finances of the Commission must be kept on a sound pay-as-you-go basis.

In 1927, at the request of the Sportsmen, the General Assembly passed an Act raising the license fee from $1.25 to $2.00, with the stipulation that the additional increase of 75 cents be used exclusively for the purchase of game lands and the maintenance of refuges and public shooting grounds. This practice was continued until 1949 when the sportsmen and the Commission felt they had accumulated enough ground, since they held title to 194 units, blocks of State Game Land totaling some 876,203 acres. The original goal had been the acquisition of a million acres of public hunting lands and refuges, as well distributed over the state as possible, and this goal was well within sight. It was then deemed advisable at this point that the best policy to follow was to purchase lands to round out present holdings rather than buy new acreage for new game lands. However, the Commission did not rule out entirely the possibilities of additional purchases in an area, where in the opinion of the Commission, it would serve a good purpose.

The establishment of this policy was brought about by the fact that the Commission and the sportsmen realized they could very easily become land poor. In fact this nemesis

PR photo by Forbes

Years ago deer were imported in an effort to re-establish that once-plentiful game animal.



had already raised its ugly head and it became apparent that land improvement, habitat cover and food could not keep pace with the rapid acquisition of land, since the funds were not sufficient for both.

In order to counteract this situation, a bill was introduced into the Legislature in 1949 raising the license fee to $3.15 for each resident hunter, and earmarking $1.25 from the receipt of each license for the purpose of improving, planting and maintaining the wildlife habitat on the lands available for public hunting, for the purchase and maintenance of equipment used for this purpose, and providing protection to the property of the Farm-Game Cooperators. While this law is quite technical as to the application of this special fund, it now provides the means for maintaining the present holdings. This Act also nullifies the former one setting aside money for the purchase of lands.

That the policy of the Game Commission has always been to seek more effective and economical methods of carrying on its wildlife program can be readily seen as one thumbs through its recorded history. Many research studies were carried on in the past and full cooperation given other agencies in their research work, for the Commission recognized that human progress has been the result of research. The present Commission follows this same policy in their present and long range plans for it has paid dividends. Money spent for research provided the answer to many wildlife problems and permits the Commission to operate in a scientific and business like method rather than on a haphazard hit-and-miss basis. The Commission has long held that conservation is a big business and should be handled as such.

Their research program is aided considerably by the additional financial help available through the Pitman Robertson Fund. This fund is collected by the Federal Government through an exise tax levied on arms and ammunition. The money is distributed among the various states on the basis of the number of hunters licenses sold and the area of the state. Research and other projects considered beneficial to wildlife are approved by the Federal Government, the state carries on the work and finances it under a form of written agreement. When the work is completed in a satisfactory manner the Federal Government reimburses the Commission for seventy-five percent of the cost of the approved work.

In Pennsylvania, the greater portion of the available funds allocated to the state are absorbed in the food and cover program, however, some of this fund is used to assist in the research studies carried on by the Commission.

Few, if any organizations, receive as much for each dollar expended as does the Commission. This is due in great measure to the many safe guards thrown around the funds; the ability and sincerity of the persons appointed by the Commission; the class of personnel hired to carry on the work and the interest they show in the general program. This is coupled with the fact the employees work many more hours in the performance of their duties than do workers in most any line of endeavor.

It can be safely said that no where else in the country today can a hunter obtain so much value for the money he invests in his license, nor is it spent to better advantage, than right here in Pennsylvania.

For instance, at present writing the individual hunter of the Commonwealth pays $3.15 for a license. That money is budgeted in the following manner: for land operation 42 cents; protection of wildlife 16½ cents; propagation of game 24¾ cents; conservation education 6 cents; bounty payments 2¼ cents; student training 2¼ cents; wildlife research 2 cents;

accounting and other service 2½ cents; hunting licenses 1 cent; executive office administration ¾ cent.

Summarizing the whole picture then, the sportsman's dollar purchases lands for public hunting to perpetuate his sport; it buys enforcement to protect his property and the natural wildlife resources that are his heritage and apprehends those violators who would wilfully destroy that birthright; it assures a controlled harvest providing the necessary seed stock to insure the continued natural propagation of wildlife creatures and game for the future; it pays for artificial propagation and stocking to aid nature and equalize the distribution; it provides a program for better understanding and mutual cooperation with the landowners and it insures good conservation practices, research and planning that will help to assure the future trust for his children, while he himself enjoys the interest on his principle investment.

The interest a single hunter may collect in one legal open season adds up to the following conservatively estimated market value.

Thirty rails, gallinules and coots (combined) at 75 cents each; 4 woodcocks at $2.00 each; 4 ducks at $1.50 each; one goose at $3.50; 2 Brants at $3.50 each; 1 wild turkey at $25.00; 6 ruffed grouse at $6.00 each; 8 ringneck pheasants at $2.20 each; 12 bobwhite quail at $2.25 each; 20 cottontail rabbits at $1.20 each; 24 squirrels at $1.50 each; 6 hares at $3.50 each; unlimited number of woodchucks at $1.00 each (estimated at 5 to the hunter); 30 raccoons at $6.00 each; 1 muskrat at $1.50; 1 skunk at $1.50; 1 mink at $20.00; 2 beaver at $35.00; 1 otter at $15.00; 1 deer at $25.00 and 1 bear at $50.00 or a total bag of $601.60 of game and furbearing animals, in addition to the pleasure and relaxation that comes from days in the field.

Any man who can realize 523 percent plus, on his investment, is indeed fortunate.

Is it any wonder that hunters of other states look with envy on the hunters of our Keystone state or that other conservation agencies throughout the country recognize and follow the leadership of the Pennsylvania Game Commission and adopt so many of its successful practices and conservation measures?

. . . *The End*

Jack rabbits in Ontario grow to weigh as much as 25 lbs.

* * *

The mountain sheep can't stand his kinfolks—he successfully defies all enemies except two—man and domestic sheep. From the former he receives bullets, from the latter disease.

* * *

The so-called Silver Eel is just a common Green Eel with a date. When they are six to eight years old, eels stop feeding and change to a silvery color for their long trip out into the ocean to spawn and die.

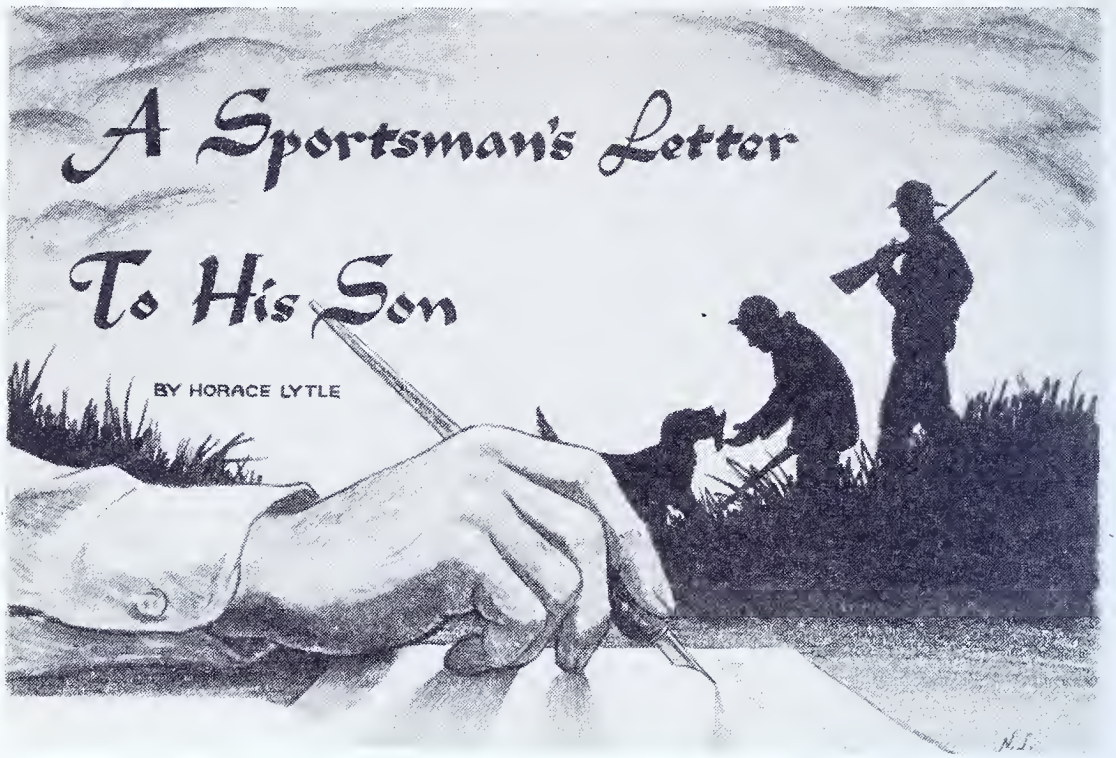
Gigantic Lizards were the motives for many of the legends of winged dragons and griffins; consequently, their modern descendants are the subject of superstition and fear.

* * *

The surf bird nests on the mountain tops of central Alaska but winters in South America. For nearly 150 years after the bird was given its scientific name, ornithologists were unable to locate its breeding ground.

* * *

The northern sea otter cracks shell fish on a stone held against his chest.



Dear Son:

A great deal of my early love of hunting was developed in Pennsylvania. From 1896 on, I knew Crawford County like a well-loved book. I'd walk for miles on end and knew where the grouse were. One woods in particular I shall dream of as long as I am here. It was the most isolated of any I've known this side of Ontario. And it was in this woods that I saw my first grouse—fifteen or more of them, in fact. They fed toward me as I sat motionless on an old log. I have never been more thrilled. After feasting my young eyes on the sight for some time, I suddenly jumped up—and they exploded with a speed and roar that stunned me. I got off a shot—maybe two, I'm not sure—but I knew I had touched not a feather, even before the black powder smoke had floated away from blinding my vision. It had been a vision indeed. The memory of it will live with me always. I have never since seen so many grouse together at one time; nor have I ever since then had anything like a similar opportunity to watch and study them so intimately, while they didn't even suspect my presence. However, the Pennsylvania grouse I encountered as a boy in my teens never came singly. I'd say I may never have flushed less than six at a time. It's different now.

There were some great dove flights. The best and most regular was not far east of Saegertown, along French Creek. Most of the boys who hunted, though, went for squirrels. That's what I had been hunting while I sat silently on the log when those first grouse fed toward me. After they had flushed I was too excited to sit still any longer, so I called it a day—a *great* day—and hiked back to town.

That was wonderful country. It was honeycombed with springs of clear, cold water. You could scarcely walk a hundred yards in the woods without encountering one—or several.

At the time of which I write we lived in Saegertown—and you had come into the world. You were less than 2 years old; and often, when I was Timekeeper, I would carry you

on my shoulders as I'd go down the line. I've carried you that way for miles.

I think I'll tell you next about something before you were born. One summer I made a canvas canoe. It was a pretty good one, if I do say so myself. In it Orville Shoppard and I paddled many miles of French Creek. Gigging was legal then, and one memorable night we returned with 84 frogs and a number of fish.

I grew up loving water and canoes —so your love of the same comes naturally. You were but 9 years old when we first took you to the "land of the canoe" in the North. For a month we lived in a cabin on Spruce Lake at Mile 72 north of Sioux Saint Marie—or "The Soo." That's where you first learned to swim and paddle a canoe. Finally, we mustered up the courage (or whatever it was) to let you go paddling alone. There was one day of anxiety, though, that I'll never forget. I sat on the cabin porch writing and you took the canoe. Every time I chanced to look up I'd watch you a while—proud of your manifest interest and the increasing proficiency with which you handled the craft. Then, after a spell of concentration, I looked up from my work—and you were no where in sight! No other canoe was available. To have bucked the brush of the shoreline would have been impossible. Except for the portages, wilderness country offers but two modes of travel: via water in summer and snowshoes in winter. I called your mother and asked if she had noticed what had become of you. She hadn't. There was nothing we could do but sit and wait. Even I was worried. In similar circumstances back home—could that have been possible—your mother simply couldn't have stood it But that North Country does something to one—where one feels so much closer to God. While I admit I was worried, I clung to one fact: even the canoe was no where in sight, which it would have been had you capsized. It was this that helped me calm your mother.

And finally—at long, long last—there you were again, far down the lake. After watching intently, I was able to make sure you were headed our way. Your face shone with elation as you drew closer. A very proud little boy helped his dad beach the canoe. It was full of fish—most of them no bigger than bait. But you thought of them only as a great catch. You had run into two trappers and had gone fishing with them. I've often wondered why they didn't give you a couple of good ones (I can say that *now!*). Knowing you, though, I think I know the reason: they very probably did offer, and you refused them—wanting only those you had caught yourself. What I wonder is why you didn't yourself chance to hook a big one while reeling in one of the many minnows that you brought home. That, too, I can say now—I couldn't say *then*. We just had it to do, so your mother did fry up a few of those not-quite-so-tiny and you were proud as a peacock; not to have used any of them would have broken your heart.

You and I practiced constantly with the .22 rifle and both got proficient with it. One day we asked your mother to take a shot. She had never pulled a trigger—and never has since. But you prodded her until she agreed to shoot just once. We set up a mark for her. Tremblingly, she shouldered the little gun. It bobbed and weaved as she clung to it. Then she screwed up her courage, closed both eyes tight, and *jerked* the trigger. Who said a rifle trigger must be gently squeezed? The one and only shot your mother has ever made in her life centered the bullseye—*dead center!* With that safe rifle you killed your first partridge, cutting its head off clean as a hound's tooth. Every now and then during that important month of your boyhood we'd

kill two or three partridges for the table. It's hard to realize that tame and seemingly dumb species of the wilderness is really the same bird as the utterly crafty ruffed grouse of Pennsylvania. The difference between the two is but a matter of environment and education.

On one occasion I took the canoe alone and spent the whole day. For hours-on-end I was lost in silent contemplation of the unspoiled works of The Creator. In my entire life I have never felt more comfortingly peaceful, nor closer to God. This prompts a curious thought; I wonder what war mongers would think of in a similar setting. Another day you and your mother and I took our longest trip. We came to one wild lake and three loons lifted from the water as we portaged into it. Their weird cries echoed back and forth between the silent shores. We could not find this lake on the blue-print map we had picked up in The Soo. Thus we reported it on our return trip and were thanked for doing so They even asked us to name the lake, which we did: "Three Loon Lake." I wonder if it still is so called.



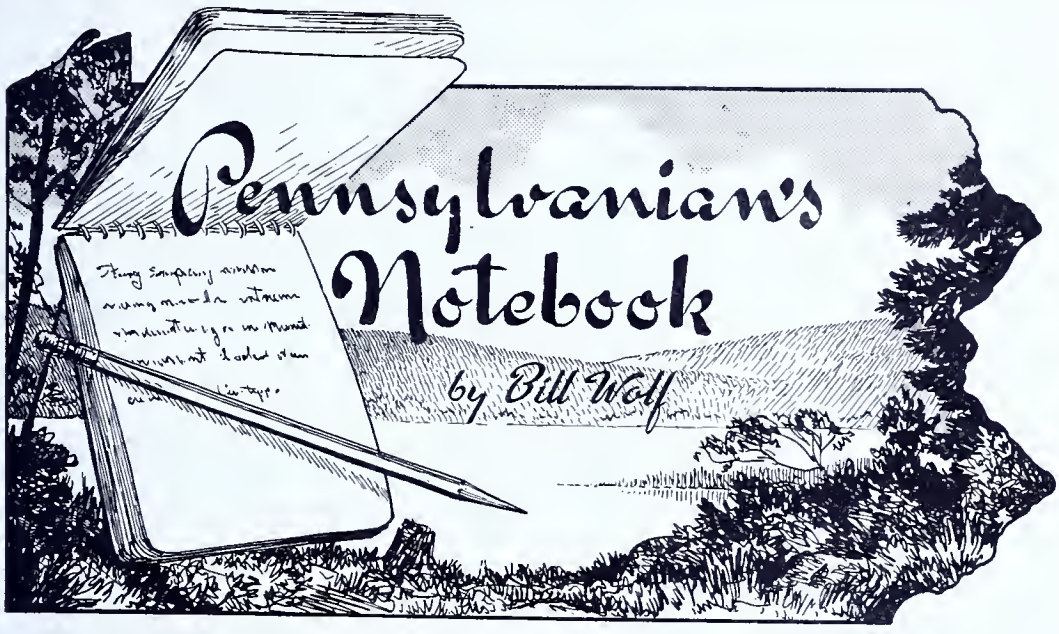
You were fascinated by beaver houses and every time you took the canoe you would head for one of them and sit silently for hours hoping for a chance to see a beaver. Thus, even as a little boy, you began your education in the ways of the wild. You loved it so much that you were content the whole month and never seemed to miss for a minute having no playmate of your own age. I loved you all the more for that. Since then you have become the finest woodsman I have ever known. Yes, I know I've told you that before. In a later letter I'll remind you of the time when that conviction was borne home to me full bloom.

We picked lots of berries, that first summer of yours in the woods. When hunting for berries, each of us would take a container. Yours seldom, if ever, was filled. You always ate more than ever found their way into your bucket. This was especially true if they were blueberries. One day while berry-picking we came across a small yellow envelope stuck in one of the bushes. It was a telegram —and to me! It had been thrown from the Algoma Central train one day as it chugged past Spruce Lake. The message was a week or more old when we found it, merely by chance. It was from the office and we had to think about getting back home. This you hated so much that we had to watch you. Given any chance at all—and how you did try!—you'd have hidden yourself so that we'd have missed the train.

There was a coating of ice around the lake edges the morning of our last day, as it was mid September. Even so, we couldn't miss our last dip. Thus, before the train was due to pass Mile 72, you and I both took a last quick swim. And when you did that you were a man, my son. You were then—and still are—my ideal.

Lovingly,

DAD.



PART IV

THE first time I went hunting with Sam Lamoreaux in the Poconos, he said: "We'll work back by the Daly House and see if we can scare up some grouse there." Later, when Sam announced in the middle of nowhere that this was the Daly House region I looked around and saw nothing but trees, more trees, and beyond them still more trees. There were no signs of a house of any sort. Sam knew enough local history, however, to explain that there once was a house and farm there owned by a family named Daly. That was so long ago that the farm had returned to forest and nearly all traces of the buildings had disappeared, but, as far as the people of the region are concerned, that desolate spot in the woods probably always will be known as "the Daly House."

Anyone who plans his hunting or fishing trips from maps, or gets about the State, encounters many odd and interesting place names. Some are puzzling, some highly descriptive, some are simply delightful. Occasionally, a person can watch the development of a place name. For instance, there used to be a farm along Tunkhannock Creek that was always known by the name of the family occupying it. About ten years ago the buildings burned down, and fishermen took to saying they were "fishing where the cabin burned down." Gradually, they shortened this to Burnt Cabin, and now Burnt Cabin is a definite place name in the region, and will be for all time.

Most names are as carelessly bestowed as that particular Burnt Cabin, or else someone arbitrarily gives a name to a lake, river or place. I once was flying with a bush pilot named Scotty MacLeod over the maze of lakes well up in northern Canada, and was looking over his detail map of the area when I noticed he had penned in with ink a name on one of the lakes—MacLeod's Lake." Scotty had simply given his own name to an otherwise unnamed lake, and it probably will stick. A friend of mine named Ed Smith has a hunting and fishing lodge in Ontario, and its location on Big Vermilion Lake is known as Smitty's Place. That spot will be called Smitty's Place three

centuries from now, and no one will know the origin of the name.

Like most states, Pennsylvania has its share of ordinary and out-of-the-ordinary place names. The origin of many is obvious, or can be guessed at. You can almost hear the noisy turbulence of Roaring Brook and Rattling Run. There are innumerable Mud or Muddy and Rock or Rocky runs, creeks or rivers, and you can picture their appearance in the mind's eye, although I have never seen Mud Run in Carbon county actually run muddy. It no doubt does at times, and it must have been named during one of its infrequent discolored periods.

Maple, Pine, Laurel, Spruce and other "tree" names for streams and lakes or mountains require no explanation. An abundance of animals, or some outstanding incident connected with one or more of them, account for the various Wolf, Bear, Deer, Opossum, Raccoon and similar place names. I do not know how many Trout Runs there are in Pennsylvania, but it seems every county has at least one. I know of two flowing into Codorus Creek alone.

Many of the Trout Runs no longer contain trout, and certainly there are no more woods buffaloes to roam along streams called Bull Run and Buffalo Creek, while the Pennsylvania elk that gave their name to one of our counties and to various places in the state are gone from the scene.

Old and forgotten industries gave their names to places. I hunt and fish near Shingle Mill Run and there is a Tub Mill Creek in Bedford county. There's a Clapboard Creek, and Furnace appears alone or in combination, while there are any number of plain Mill Creeks. Coal gave its name to Carbon county and to assorted Coal Creeks. Natural salt licks used by buffaloes, deer and other animals account for the many Licks—like Sandy Lick, Gravel Lick, Black Lick, Two Lick, Lick Hollow and so on.

There are four French Creeks in the State that I know of, and possibly more, and it's possible to fish on German Creek, Quaker Creek, Dunkard Creek and Jew Creek. Colors supplied many names for streams and mountains—Blue Mountains, Red Rock Mountain, Black Creek, Yellow Creek, White Clay Creek, Red Clay Creek.

But those are the commonplace names, the everyday ones in use wherever English-speaking people settled in this country. There are others, peculiar to Pennsylvania, that are distinctive.

Some are sheer music. We are so used to them in our daily life, so accustomed to their syllables, that we are not aware of their beautiful cadence when they are spoken. As a poet pointed out in a rhyme of rivers, the stream names of America are poetry in themselves, and those of Pennsylvania are no exception.

I have always liked the sound of the Black Moshannon, perhaps because of association with WHERE THE RIVER SHANNON FLOWS, but this stream of the central part of the state is not alone in its ability to please the ear and the mind. There are others. There are the Allegheny and the Ontelaunee, the Manatawney, the Mahoning and the Nesquemahoning; the Conodoguinet, the Conewago and the Conestoga; Analomink, Lackawaxen and Aquashicola. Say them out loud. Cocalico and Cocoosing, Pohopoco, Shickshinny and Susquehanna. Sweet Root and Standing Stone. Lackawanna, Tulpehocken, Big Chickies, Little Jerry. The Unami, Saucon, Tuscarora and the Conococheague.

Many of these are Indian names, and Pennsylvania is fortunate in being located about midway between north and south on the continent. Languages, like climate, get softer the farther south one goes. Names like

Apalachicola, Suwanee, Kaloosa and Tallahassee are musical and rhythmical compared to northern names like Mohawk, Algonquin, Cree, Chipewyan. These are not unpleasant but are considerably harsher.

This state is in-between with a strong name like Tunkhannock contrasting sharply with the musical syllables of Shinnemahoning. The mouthful that is Wapwallopen is counteracted by the longer, but easier-on-the-tongue Connoquennessing.

There are other names, delightful because unexpected, or unusual, or because they are unusually descriptive or blessed with a touch of humor.

Well known as a fishing stream is Young Woman's Creek (or Youngwoman, as it is often written) in Clinton county. I do not know whether someone decided there should be an Old Woman's Creek to balance it, or whether they were named independently, but there is an Old Woman's Creek in Huntingdon county. And then there is Aunt Clara Creek in the western end of the state.

For anyone afraid to fish the several Rattlesnake Creeks in Pennsylvania, there are antidotes to be found in Keg Run and Whiskey Creek. If such strong drink doesn't appeal, then go fish Milk and Water Creek in Bedford county.

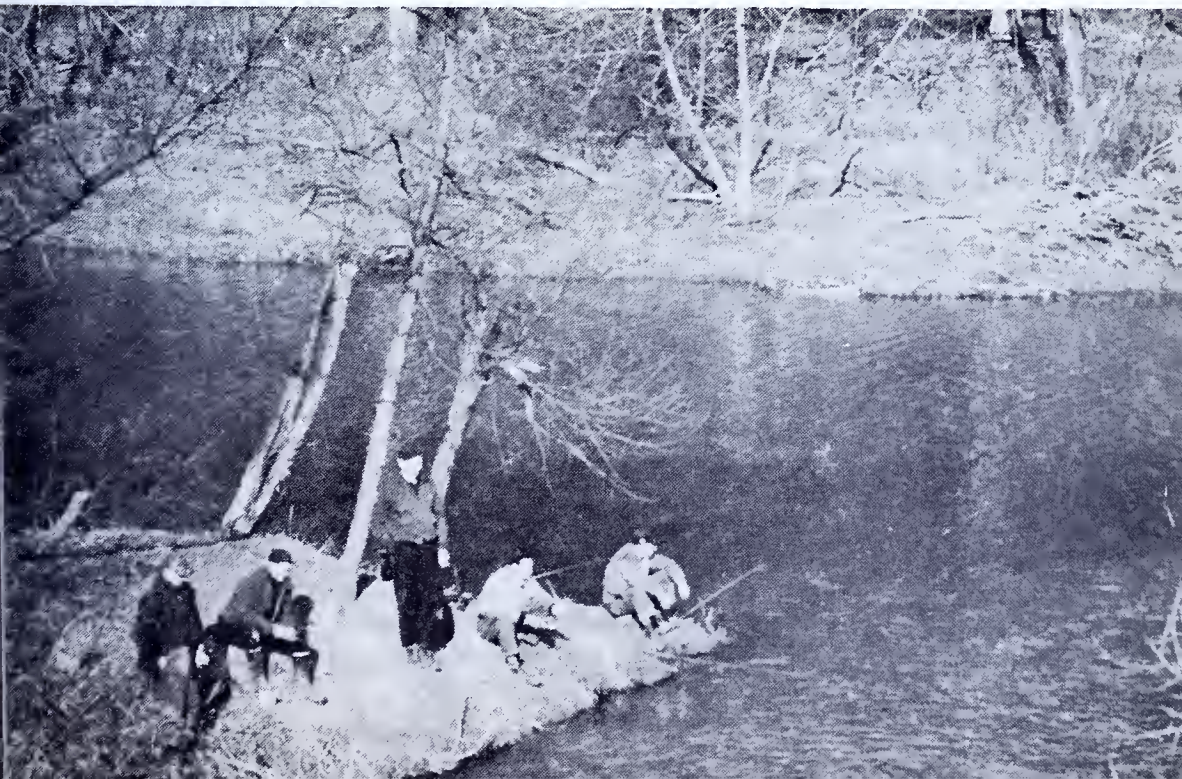
I find Little Pucketa Creek amusing, for some reason; but right near it is the sobering Monastery Creek. There are two Barefoot Runs in Bedford county, and perhaps a barefooted wader gave Slippery Rock Creek its name.

There is a stream listed on the maps simply as the Little 4, and I have often wondered whether the map makers were too tired to spell out "four" or if there is some good reason for the numeral. There are Windfall Creeks, and Lancaster county has a Puddleduck Creek. For a melancholy fishing trip, I would go to one of the several Shades Creeks.

And then there are names that can best be called unpleasant. Why would

Sucker Fishermen see spring come to Buffalo Creek.

Penna. Fish Comm. photo



anyone name a stream Ugly Creek or Dump Creek? There are two so called in the western part of the state. That section of the Delaware River known as Foul Rift requires some explanation. Was it just a stretch of foully rough water in the early days of navigation, or is there some other reason for such an uncomely name?

Finally, there is the name of the state itself. We are so used to it that we often forget that every time we say Pennsylvania we are saying Penn's Woods. Fortunately, the name is still full of meaning today as any trip over Penn's woods by airplane, highway or train will show. The trees are still with us.

Trappers, fur traders, professional hunters, timber cruisers and drovers were about the only persons who got about most of the state in the early days of difficult travel. There was little necessity for anyone else to travel much, and a journey of more than a few miles was an important venture, one not to be undertaken lightly. Except for a few important post roads, the "highways" were better fitted for the feet of the hogs and cattle driven to the big city markets by drovers than to any wheeled vehicle.

However, there was one other class of men who went wherever persons lived in Pennsylvania. They appeared on the scene as soon as farms were settled in any region, and must have been among the first adventurers in this state.

Their trade doesn't sound adventurous. They were the peddlers and artisans who roamed the country selling their goods and services. If the roads were passable, they travelled by horse and wagon. If the roads weren't fit for wheeled vehicles, they put their packs on their backs and went afoot, or sometimes they just walked through choice.

It doesn't seem romantic on the surface, but there are few persons today who like to consider themselves outdoorsmen who would venture forth as they did. How would *you* like to put your entire stock of goods in a pack on your back, and set out through the wildest mountain country we have left today, stopping at the occasional farmhouse, selling a few things here and there, travelling perhaps a hundred miles on foot before returning to some town to get more supplies?

Something like that would be quite an adventure. It must have been more so in the colonial days. They must have known hunger and cold. They knew the sudden summer thunderstorm that poured drenching rain on them far from any shelter. They were likely victims of any highway robber of the day.

However, they were more than welcome at most farmhouses. In a day when a trip from the farm home to the nearest town perhaps ten miles away was a big undertaking, the peddler or strolling tinkerman coming from some city perhaps as much as fifty miles distant was a visitor from foreign places, a bearer of news of the outside world, a cosmopolitan traveller who knew what was going on over the country. He was welcome to sit down to the family table, to stay overnight in the house if there was room, or, if not, in the barn.

The first of these wanderers were Yankee traders who came in from the east to the western frontier of the nation in Pennsylvania. They were soon succeeded, however, by Jewish peddlers who took over and carried on into quite recent times.

I suspect the Jewish peddler supplanted the down east Yankee traders because they quickly learned the Pennsylvania German dialect, and there was much good-humored bantering and bargaining done when they tried to sell their wares. The Pennsylvania Germans had names for all the different kinds of wanderers who braved the remote places and the wilderness in the earliest days.

(Continued on page 35)

Fayette County

Home of Fort Necessity

Twelfth in a Series

Note: This center sheet can be removed if desired, without damaging the magazine by loosening the two center staples.

FAYETTE County lies along the Pennsylvania-West Virginia border. Following a turbulent early history that included Virginia's claim to ownership and the French and Indian Wars the county was formed from a part of Westmoreland County and named in honor of Marquis de Lafayette.

Land Area

The county contains 515,712 acres of which 297,007 acres are forested and 218,705 are in non-forested areas. There are 258,369 acres in farms. Publicly owned land comprises 12,793 acres and includes 10,226 acres of State Game Lands and 2,228 acres of State Forest Land.

Topography

Except for Laurel and Chestnut ridges the county is not mountainous, although the land slopes rapidly along the Youghioheny River. Passing through a ridge at Ohiopyle the stream drops more than sixty feet in a mile. Fayette County is drained by the Monongahela and Youghiogheny Rivers and Redstone and Georges Creeks.

Transportation

Railroad transportation is furnished by the Baltimore & Ohio, the Pennsylvania, the Pittsburgh & Lake Erie, and the Western Maryland Railroads. The National Highway (U. S. Route 40), U. S. Route 119 and other important routes traverse the county, which has 743 miles of improved roads.

District Game Protectors

Joseph Maholtz, National Pike, c/o Straffords Tourist Home, Brownsville, has jurisdiction over Washington, Perry, Lower Tyrone, Franklin, Jefferson, Redstone, Luzerne, Menallen, German and Nicholson townships.

T. W. Meehan, 5 Harvey St., Hopwood, has jurisdiction over North Union, South Union, Georges, Springhill, Wharton, and Henry Clay townships.

John F. Blair has jurisdiction over Upper Tyrone, Bullskin, Connellsville, Dunbar, Saltlick, Springfield and Stewart townships.

Fish Warden

James H. Banning, Connellsville.

District Forester

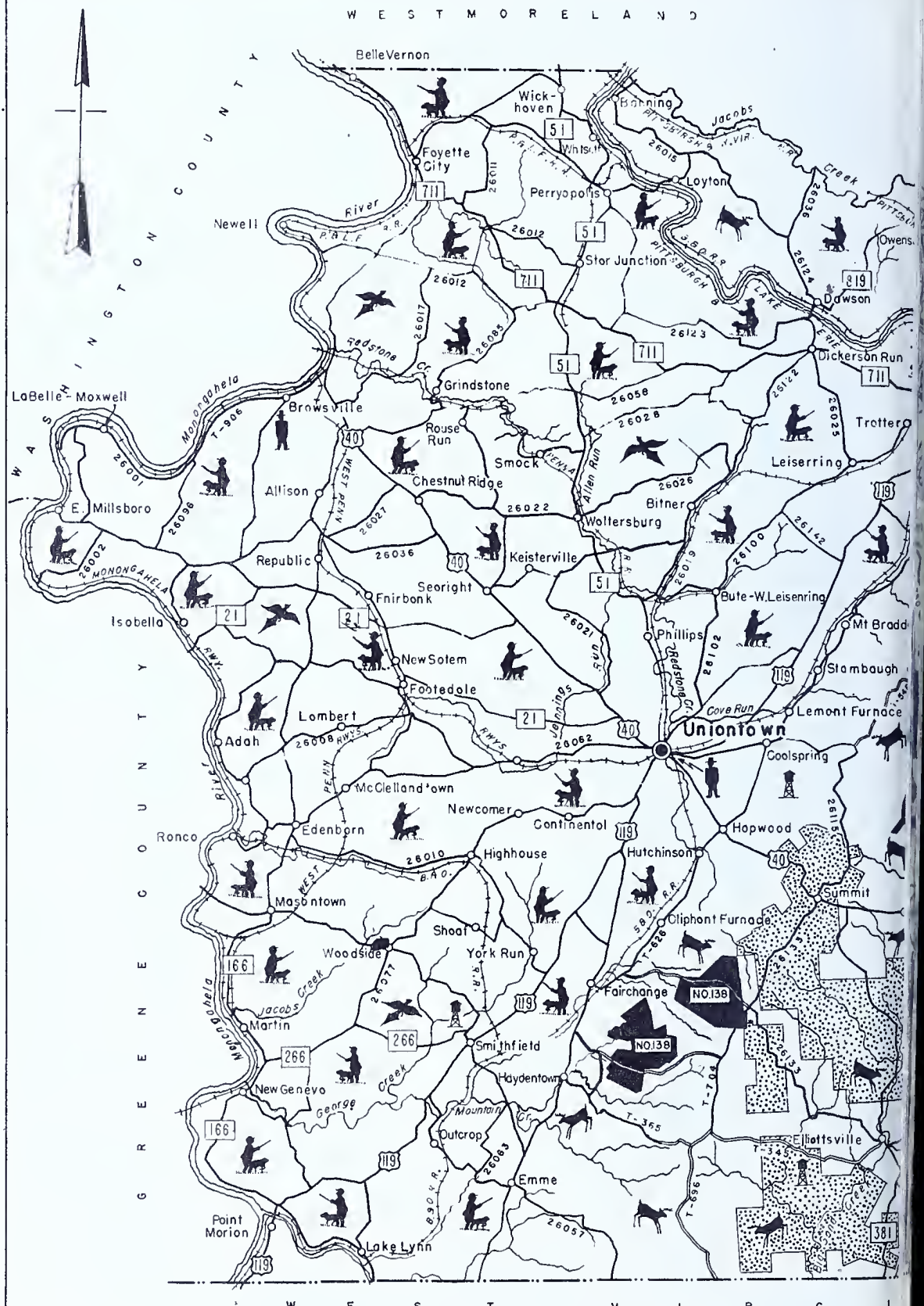
Loren R. Brown, 30 Mills St., Uniontown.

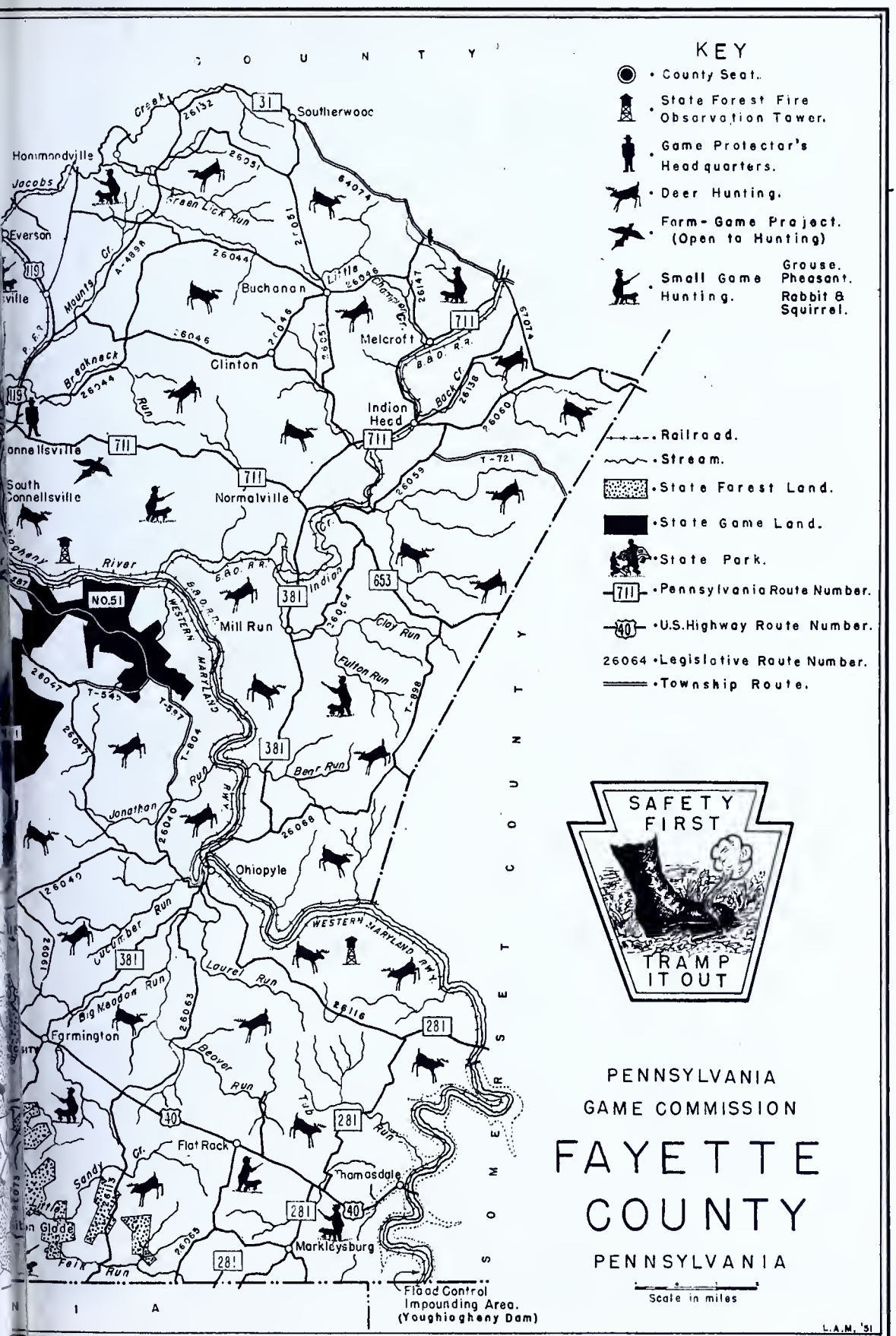
Agriculture

Long before the famous mineral resources of the county were developed agriculture had reached major importance, and today great stretches of land under intensive cultivation are very much in evidence. Fruit, poultry, dairy products and beef cattle are among the principal farm products.

Industry

Mining products are the backbone of Fayette County's industry, with bituminous coal chief of these. Other important products are beehive coke, spirituous and vinous liquors, miscellaneous glass products, window glass, sulphuric, nitric and miscellaneous acids.


WESTMORELAND
WASHINGTON COUNTY
GREENE COUNTY
WEST VIRGINIA
BelleVernon
Wick-hoven
Banning
Foyette City
Whitsett
Perryopolis
Loyton
Newell
Monongahela River
P.R.R.
P.A.L.E.R.R.
Jacobs Creek
Owens
Stor Junction
Dawson
Redstone Cr.
Grindstone
Dickerson Run
LaBelle-Moxwell
Brownsville
Rouse Run
Trotter
Smock
Leiserring
Chestnut Ridge
Allison
E. Millsboro
Bitner
Waltersburg
Republic
Keisterville
Seoright
Fnirbonk
Bute-W.Leisenring
Isobella
Phillips
Mt Bradd
New Salem
Stambaugh
Fobtedole
Lombert
Cove Run
Lemont Furnace
Adah
Uniontown
Coolspring
McClellandtown
Newcomer
Continentol
Ronco
Edenborn
Hopwood
Highhouse
Hutchinson
Masontown
Summit
Cliphont Furnace
Shoaf
Woodside
York Run
Fairchange
NO.138
Martin
Smithfield
Haydentown
New Genevo
Outcrop
Elliottsville
Emme
Point Morion
Lake Lynn
Jacobs Creek
George Creek
Mountain
Cr.
B.&O.R.R.
W.PENN
RWYS
Johnings Run
Allen Run
Vienna
Cove Run
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381


KEY
• County Seat.
• State Forest Fire Observation Tower.
• Game Protector's Headquarters.
• Deer Hunting.
• Farm-Game Project. (Open to Hunting)
• Small Game Hunting. Grouse. Pheasant. Rabbit & Squirrel.
Railroad.
Stream.
State Forest Land.
State Game Land.
State Park.
711 • Pennsylvania Route Number.
40 • U.S. Highway Route Number.
26064 • Legislative Route Number.
Township Route.
SAFETY FIRST
TRAMP IT OUT
PENNSYLVANIA
GAME COMMISSION
FAYETTE
COUNTY
PENNSYLVANIA
Scale in miles
Flood Control Impounding Area. (Youghiogheny Dam)
Southerwood
Honmandville
Jacobs
Everson
Buchanan
Clinton
Melcroft
Indion Head
Connellsville
South Connellsville
Normalville
Mill Run
Ohiopyle
Farmington
Flat Rock
Thomasdale
Markleysburg
Green Lick Run
Mounts Cr.
Breakneck Run
Little Champion Cr.
Back Cr.
Indian Cr.
Clay Run
Fulton Run
Bear Run
Jonathan Run
Cucumber Run
Big Meadow Run
Laurel Run
Beaver Run
Sandy Cr.
Falk Run
Run
Creek
B. & O. R.R.
WESTERN MARYLAND RWY.
NO. 51
SOMERSET COUNTY
L.A.M. '51

Historic

The Ohio Land Company, of Virginia, in which George Washington himself had a share, claimed the area which included what is now Fayette County. The French and Indian War also held back settlers. Christopher Gist, a friend of Washington, was the county's first permanent settler. The next year he was one of three white men who accompanied Washington to the French Fore Le Boeuf in Erie County when Virginia desired the French to leave the territory.

The county seat was located at Union in 1776, which was incorporated into a borough in 1796. The town is now called Uniontown.

In 1783 Fayette County was separated from Westmoreland County and named in honor of Marquis de Lafayette of Revolutionary fame. On a subsequent visit to America General LaFayette and his son, George Washington de Lafayette, were welcomed to Uniontown, the county seat, by one of Fayette County's great statesmen, Albert Gallatin, onetime United States Senator from Pennsylvania and Secretary of the Treasury of the United States.

During the French and Indian Wars history was enacted in Fayette County. In the summer of 1754 George Washington retreating before the French with weary soldiers made the beginnings of a Fort in the great meadows to the south which he appropriately named Fort Necessity. Here his little band fought so sturdily that they received honorable terms from the larger force and withdrew into Virginia. Near here less than a year later he buried the British officer, General Braddock, while in retreat after the disastrous encounter with the French and Indians near the Monongahela.

A dramatic test of strength of the United States Constitution was made in Fayette county, as well as Washington and Allegheny—the quelling of the Whiskey Rebellion. Liquors were distilled from the grain in Fayette County, carried east by packhorse and sold at a good profit. The new Federal Government imposed a tax of four cents per gallon on whiskey. Taxes were not paid, collectors were roughly treated, summons were unheeded, some people even talked of secession. In 1794 Federal troops were sent to Uniontown. The rebellion collapsed. The taxes were collected and the strength of the Constitution was demonstrated.

Recreation—Hunting

The western part of Fayette County is predominantly small game country. Good deer hunting can be found in the wooded areas, chiefly east of U. S. Route 119, and Turkeys are making a strong comeback in this section. State Game Lands Number 51, comprising 7,668 acres, Number 138 comprising 2,418 acres and a portion of Number 111 comprising 140 acres are found within the county.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location, and length of area of stocked waters) include: Black Creek, Brook Trout, Indian Head, 5 mi.; Beaver Run, Brook Trout, Ohiopyle, 3 mi.; Buck Run, Brook Trout, Indian Head, 2 mi.; Dunbar Creek, Brown & Rainbow Trout, Dunbar, 4 mi.; Indian Creek, Brown Trout, Melcroft, 3 mi.; Laurel Run, Brook Trout, Ohiopyle. 3 mi.; Big Meadow Run, Brown & Rainbow Trout, Farmington, 4 mi.; Mill Run, trib. Big Sandy Creek, Brook Trout, Elliottsville, 4 mi.; Mill Run, trib. Indian Creek, Brook Trout, Indian Head, 4 mi.; Morgan Run, Brook Trout, Connellsville, 2 mi.; Mountain Creek, Brook Trout, Smithfield, 4 mi.; Mountain Creek S. Br., Brook Trout, Smithfield, 3 mi.; Big Sandy Creek, Brown Trout, Elliottsville, 5 mi.; Indian Creek, Black Bass, Indian Head, 6 mi.

(Continued from page 30)

Some twenty years ago I copied down these names, but no longer can remember the source to give credit, and I certainly can't vouch for the Pennsylvania German spelling being correct.

All peddlers, regardless of their specialty, were known as "fusgaengers," or foot-goers, which is a good description of these high adventurers in humble ways. The general businessmen were "kramera," but the "pokmon" or peddlers were divided into those who sold "klanichhada" or knickknacks; those who peddled "herdsing" or house furnishings, and the "blousmon" who dealt in herbs.

There also were wandering "schoonmachera" or cobblers, and the tinkers or pewter menders who also tramped the roads with their kits were known variously as "zinkera, shpengler or kesselflickers." The itinerant cabinetmakers were "shreinera," the tinware dealers (who jingled as they walked, and whose pots and pans flashed in the sun) were "blechmon." There were "wevera" (weavers), "letterorsha" (chimney-sweeps), "safemon" (soapmakers), "lichtermon" (candlemakers) and "pictarmon" (artists). Harnessmakers were called "gasharmon."

Bringing a measure of fun and culture to the farms and remote places were strolling fiddlers known as "fusgeigera," violin teachers called "geikmon," and the "glofera" or piano and melodeon teachers who often carried a small, collapsible organ on their backs. A happy lot who paid their way through the country were the jig dancers, the "donsamon."

They may seem out of place here, but they aren't. In their own way, they were as much pioneers as men who carried guns, set traps and cleared farms because they came right on the heels of the others. And I feel that they must have loved the woods and the streams, else they would not have walked through the trees and along the waters with a heavy pack on their backs.

. . . The End

NOW IS GUN REPAIR TIME

The best time to have your gun repaired, refinished or given a general going-over is right *NOW*, according to an official of one of our leading gun companies.

"A good many sportsmen put off small repairs and even overhaul jobs until the last minute and then hope for quick service," he says. "We could give much better service if they would not delap in sending these guns in and thus avoid the rush. If the repair is a minor one or one not requiring special work, it will be best to turn it over to a competent local gunsmith as they'll get quicker service that way."

All gun manufacturers maintain custom repair and service departments for firearms of their own make. When the gun is received at the factory, it is registered and given a file repair number, then stored awaiting correspondence from the owner. Factory service men then give the owner an estimate of the cost of the work desired and suggest whatever additional work seems necessary or advisable. Upon authority from the owner, the repairs are made and the gun returned as promptly as possible. Each is taken in its turn, except in cases of emergency.

In sending a gun to the factory, it should be taken down and carefully packed in a good stout box or heavy, double-thick cardboard carton. The trigger guard should be tagged with the sender's name and address and the model and serial number of the gun.

A separate letter should be written to the factory which will explain in detail the repairs desired, referring to the gun by model and serial number. This letter should be mailed before or at the same time the gun is shipped. Have that gun put in shape *NOW*, and it will be ready when next season rolls around.

The Handwriting On The Wall— We Can Erase It

By E. L. Peacock

MANY of you have heard through various mediums the warnings of the Game Commission concerning the responsibility placed upon each of us in promoting and maintaining that feeling of reciprocity between landowner and hunter.

Through the tireless efforts of the Commission, through our sportsmen's associations, through the press and radio, also have come warnings. Most of you have heeded the warnings. A few may have had a lesson driven home through a personal experience. After all, the depredations that have closed many farms and estates can be boiled down to the three words "Lack of Respect."

When we stop to consider that we are in the Double A Bracket in religion, education, ethical standards, and the humanities, and are still disrespectful to one another, it makes us wonder.

Over a period of many years that I have been privileged to spend in the "woods and templed hills" of our great state, I cannot remember a time when disrespect seemed so rampant. It seems, despite all efforts to the contrary, that a minority group —a group that refuses to honor the simple, fundamental principles of dignity and respect for the other fellow's rights and feelings—elects to live by a singular moral concept that violates the laws accepted by the majority.

We are taught that man is the highest form of animal life and we like to believe that we are; but if we are students or conservators of wildlife we can never allow malfeasance, dereliction, delinquency, philandering, depravity, or lack of respect cause us to venerate the Biblical admonition, "Go to the Ant, thou sluggard."

Happily, I feel I can say without fear of contradiction, that self-respect and respecting others is paramount with the overwhelming majority of Pennsylvania hunters. How disrespect works and whom it hurts, I will endeavor to show.

I am fortunate in having access to a large tract where I have spent many happy hours. Sometime ago, while running my Beagles, I came upon the



PGC photo by Luttringer

The whole future of free hunting hinges upon our respect for our farmer host and his property.

owner of the tract. We chatted till near sundown and he very dejectedly told me that he felt compelled to close his land forever. His original thought in buying the tract was to provide a sanctuary for bird and animal life, not being a hunter. Nevertheless he liked to have game around to study and encounter on his week-end rambles. Unfortunately a few disrespectful persons violated the simple trust he had placed in them.

I would say this tract contains a very fair cross section of Pennsylvania flora and fauna; it supports a small family of deer, three does, two fawns, and one buck; some red and grey foxes, muskrats, minks 'coons, opossums, rabbits, groundhogs, and the lowly skunk.

Bird life runs from that woodland shadow the Hermit Thrush on up to the larger migratory waterfowl; also, last but not least, the unpredictable wood duck.

Couple this with an abundance of blackberries, fox grapes, wild strawberries, the full galaxy of spring flowers, crows foot galore, and the wild rose. Now add for good measure one State stocked trout stream and you have a word picture of the tract in question.

It supports a Beagle Training area, a rifle range, and is used by the fox and 'coon hunters. It also furnishes recreation for those not connected with any organized hunt, and for picnic parties, hikers, students of wildlife and Boy Scouts.

You may readily see how the closing of such an estate will affect so many.

The acts of vandalism that put the owner in his present state of mind happened over a period of time. The more recent ones included cutting into a wonderful planting of evergreens, five and six year old trees that had been planted as seedlings.

Last spring a party drove into the woods by way of a bridle path and their car became engaged with two dogwoods in full bloom and a tulip poplar in such a way it was necessary to hack down one dogwood and the poplar, and render the other dogwood a mutilated eyesore. This party sacrificed in the shuffle, part of one running board, two hub-caps, parts of a bumper and tore up the surrounding ground to resemble a shell crater.

As a further mark of his disrespect, he or they scattered empty beer cans and cartons over an otherwise peaceful woodland bower, and to cap it all, broke gallon wine jugs in the bridle path that necessitated a more responsible person getting down on his hands and knees to retrieve it bit by bit, lest a horse, hound, or a child sever a blood vessel and die before medical aid could reach an isolated area.

Last, but by no means least, some person or persons had dumped into this beautiful glade, cans, garbage, dead animals, old mattresses, and personal filth.

Now the many of you whose eyes may be following these lines, form your own opinions, and conclusions. I feel we all have a personal obligation to fight this sort of disrespect. Never lose sight of the fact that your Game Commission is guardian of that part of your heritage that is vested in it; it is handing that heritage to you on a silken pillow.

If we are wise, we will do all in our power to preserve it for future generations of hunters and nature lovers.

Lack of respect is vandalism which, like Communism, or a good many other "isms," should have no part in our American way of life.

Recognizing the fact that each year finds more land closed to hunting and, in some cases, even trespassing, we should all read "THE HANDWRITING ON THE WALL," and try to erase it before hunting becomes only a memory.

. . . *The End*



Outdoor Kids

By Hal H. Harrison

SEPTEMBER means the end of summer to Billy and Jane. School bells ring again; vacation days are over.

It is a time to run and play on cool, tangy days. It is time to tramp out of doors to see what the wild creatures are doing as winter approaches.

Tramping out of doors along woodland trails in September means coming face to face with a great many spiders. And the way spiders spin their webs across the trails, "face to face" is exactly right.

Like all children everywhere, Billy and Jane learned when they were little tots that a spider came along, sat down beside Miss Muffet and frightened her away.

Now that they are older, the children are not like Miss Muffet. If a spider sits down beside Billy and Jane, they know that it will do them no harm.

A rare exception is the black widow spider, and even this spider is not so black as it is painted. The black widow does not attack. Its bite is poisonous, but few people are ever bitten. Even the dreaded tarantula, largest of American spiders, is not poisonous. Its bite is painful but not serious.

The common house fly is much more dangerous than a spider. Yet a housewife who pays little attention to a disease-carrying fly will scream at the sight of a spider.

Most spiders are spinners of silk from birth until death. From this silk is made the spider's web, a trap to capture its prey. Spiders are almost the only creatures that actually set a trap to capture their food. When an insect becomes entangled, "dinner is served" for the waiting web builder.

Spider webs are of many shapes and size, and from their construction they are named tube webs, purse webs, sheet webs, tangled webs, and orb webs. The best known of all is the orb web with its round shape and its beautiful, delicate design. Only about an hour is required to spin the average orb web.

Spiders spin their silk with little organs called "spinnerets." They are like little fingers supplied with spigots from which comes the liquid silk. The fluid hardens quickly when it reaches the air, forming silken thread.

Many spiders do marvelous things.

Crab spiders can change from white to yellow or back again to match their surroundings.

Grass spiders build emergency escape doors at the bottom of their silky funnels.

Trap-door spiders cover their nests in the ground with a door on silky hinges

Garden spiders build webs so strong that they can catch grasshoppers.

Water spiders breathe air but can live under water by carrying their own air bubbles with them.

Far from being afraid of spiders, Billy and Jane have found them to be most interesting and entertaining.

As soon as children everywhere discover that Little Miss Muffet was just an old scaredy-cat, the sooner they will learn that spiders are wonderful creatures and that they are not to be feared.

. . . *The End*

WATERFOWL INVENTORY SHOWS UPWARD TREND

The 1951 annual inventory of North America's migratory waterfowl, conducted from January 11 to 13 on the wintering grounds of the birds, revealed an upward trend sufficient to about offset the decline reported as the result of the 1950 inventory, Secretary of the Interior, Oscar L. Chapman, was advised recently by Albert M. Day, Director of the Fish and Wildlife Service.

"It appears now," said Director Day, "that the waterfowl populations have recovered from the decrease of a year ago and at this time stand at a level approximately equal to that of 1949."

An analysis of all the data turned in by the observers indicated that, by flyways, the Pacific Flyway had a wintering waterfowl population somewhat better than last year, particularly in geese. The Central Flyway was down slightly. The Mississippi Flyway showed a good recovery from 1950, while the Atlantic Flyway also indicated some improvement for the second consecutive year.

Of all the waterfowl seen in the inventoried areas, ducks comprised about 75 percent of the population; geese, 13 percent; coots, about 8 percent; and brant and swans, each less than 1 percent.



EARL TRUAX—CONSERVATION FARMER

By Hugh F. Ames

MR. EARL TRUAX turned an average 157-acre farm into a profitable enterprise. For this achievement he was named the winner of the 1950 State B & O Railroad Conservation Farming Contest. A total of 3,700 progressive farmers were in the competition.

Much credit for the award goes to the fine work of Pennsylvania's vocational agriculture schools and their staffs. One of these schools conducted evening classes at Warfordsburg. Here the winner first learned about conservation farming and was inspired to give it a trial.

"What does this award, and ten years of conservation farming back of it, mean to you?" the winner was asked the other day at his farm along the Sipes Mill Road, near Needmore. His quick reply was: "I just couldn't get along without it! If I had to go back to farming as it was done here in 1923, and go through 17 years of old-style farming, I just wouldn't farm here any more."

During the winter of 1939-40 Earl became acquainted with the story of conservation farming through a course of evening classes, and the following spring spent a day making a conservation survey of his farm with the assistance of one of the instructors.

A complete conservation farm plan was tailored to fit the farm. The owner agreed to: Establish contour strip cropping in 48 acres; build 350 feet of diversions; top-dress and lime pastures every three or four years; clear land by removing brush; established a crop rotation system—a year of cultivated crops to be followed by a year of small grain, then two or more years of hay; improve pastures by liming, fertilizing, seeding, and managing by rotating and clipping two or three times each year; maintain permanent hay in sod; reseed with small grain as necessary, using twelve pounds of alfalfa to one of Ladino and four of orchard grass; establish wildlife borders and areas by planting multiflora rose, coral-

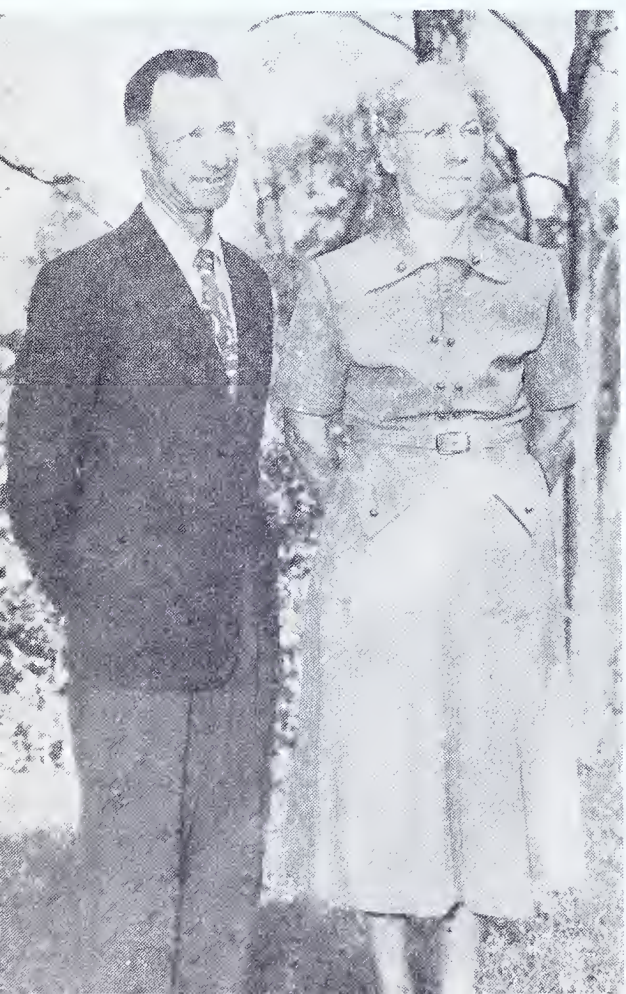


Photo by Gordon S. Smith

Mr. and Mrs. Earl Truax, who find conservation farming both pleasant and profitable.

berry, hazelnut, high bush cranberry and shrub lespedeza to be supplied by SCS nurseries; and protect woodland and wildlife areas from grazing and fire.

Earl established all contouring and strips in four years. Some work was done every year. One of the first steps was the planting of four acres of tree seedlings, with the assistance of vo-ag boys at Warfordsburg High School.

Meanwhile farmers pushed hard for a soil conservation district under Pennsylvania law. In 1945 they were successful. Fulton County Soil Conservation District, their new organization—8th in the state—was ready to operate. Through the State Soil Conservation Commission, the directors obtained assistance from USDA Soil Conservation Service technicians.

Truax was the district's first cooperator. SCS personnel helped him check the original conservation plan and agreement. They retained all that had been planned and established, added a farm pond and a diversion ditch.

Earl has a happy outlook as he plans farm improvements. He sizes it up like this: "It's a lot better farm than we had in the late '30's and twice as good as when I started operating here in 1923. Profits are up and relative expenses are down because it costs less—in time, money and effort—when you work on the level. There is less wear and tear on the machinery. I like it! There's more soil to work with; it does not wash away."

The pond has never been short of water. The reason, he points out, is that conservation farmers have established water control in the watershed. Rainfall is held where it falls—very little runs off. Supplies are piled up in the ground for use when emergencies arise. The stream and springs are ever-flowing.

Some 30 kids swim and skate at the pond. The boys and girls of the community and their friends for miles around come there regularly. In 1950 they raised enough money and with the help of the owner ran an electric line to the pond so they could have lighting for night swimming and skating. Naturally, Earl is pleased with the enjoyment the pond affords.

Earl Truax has contributed a lot of time and effort in the behalf of good agricultural development in Fulton County. Through his personal efforts more than a dozen others have become 100 per cent conservation farmers. Indirectly more have been influenced to "go contour" on their own.

The Truaxes are happy because they know 15-year-old son Ben, a second-year student at Warfordsburg High, intends to take over and operate the farm when they retire.

Mrs. Truax believes in conservation farming—it helps her to do a better home-making job. As for young Ben, he believes in conservation, too, and is right anxious to get into the full swing of it.

MICHIGAN PULLING DOWN GAME FARMS

Unless hundreds of wildlife research men are as wrong as the pollsters of 1948, Michigan hunters are due for better pheasant shooting than they have had in years as a result of the firm stand of State Game Chief Harry Ruhl on the question of habitat restoration versus stocking, the Wildlife Management Institute reports.

By a five-to-one vote, the Michigan Conservation Commission voted to push a state-wide habitat restoration program in place of large-scale restocking. This year a total of $133,000 will be devoted to an expansion of the state habitat improvement program already under way. A substantial portion of these funds will be derived from the savings effected by reducing game-farm production from 20,000 to 5,000 birds. The birds re-

tained in the state flock will be used to produce eggs for private sportsmen's groups which persist in maintaining their own restocking programs and to serve as insurance against severe loss of wild birds in any one area through severe weather or other catastrophe. Eliminated entirely is the state egg distribution program in which sportsmen and 4-H Club members have participated for years.

Strongly behind Ruhl in his battle was Michigan's influential United Conservation Clubs. In a recently conducted poll, only two or three of the numerous member clubs favored an extension of the artificial propagation of pheasants for release. Also behind him were the findings of pheasant research workers whose studies from Massachusetts to California show clearly that dumping pen-reared birds into cover already occupied by a wild population is a waste of the sportsmen's money.

DEER TRANSPLANTING AN EXPENSIVE PROPOSITION:

"Why doesn't the state relieve local overpoulations of deer by transplanting the animals to new locations?" This question is asked repeatedly by sportsmen when state game officials report deer irruptions. Texas has just released some figures which give a fairly clear answer, the Wildlife Management Institute believes.

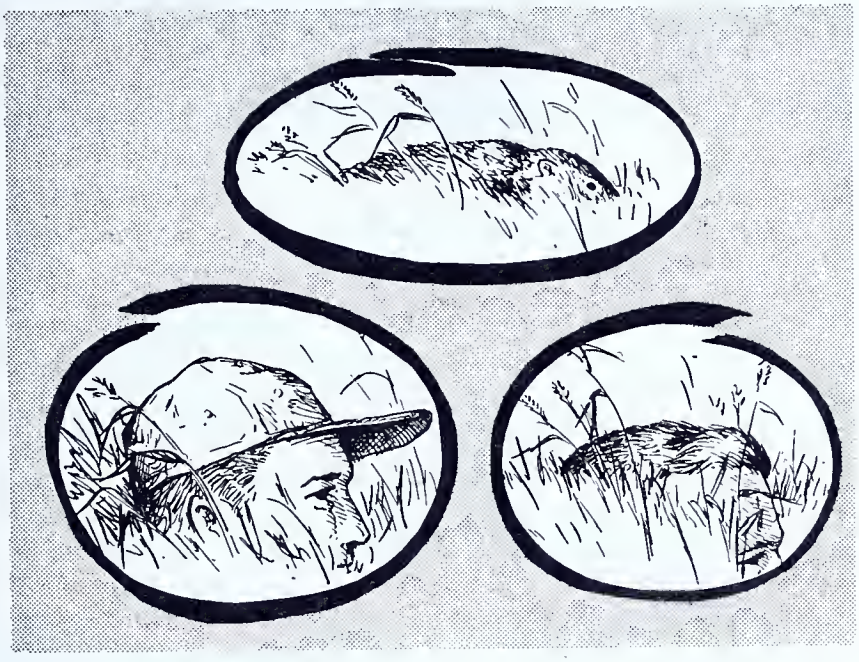
The Texas Game, Fish and Oyster Commission recently moved 885 white-tailed deer from an overpopulated refuge area. The cost: a cool $21,848.87, averaging $25.56 for each deer trapped and transplanted. To move 271 deer from another refuge under less favorable conditions the cost averaged $43.17 per head and totaled $11,699.01. Even with such heavy expenditures, it is probable that only a relatively small proportion of the deer in a county could be removed, and the residue breeding stock soon could bring the herd back to its former numbers within a year. The point of diminishing returns is reached in even the most effective livetrapping program long before a heavy impression can be made on the local herds.

In restocking depleted areas, livetrapping and transplanting have a definite place; but for correcting overpopulations, the judiciously regulated hunting season based upon the needs of the animals and upon local range conditions has not been matched for economy and effectiveness.

DON'T

DON'T drive onto a field to park your car.
DON'T throw papers, bottles and cans where you park. If you make it look like a garbage dump the next fellow will add his bit to it.
DON'T park your car so as to block the lane.
DON'T climb fences. If you don't break them down you will no doubt weaken them so that the next fellow will. Spread the wire to crawl through or under the fence.
DON'T leave gates open or bars down.
DON'T walk through the fields which are seeded to crops or grass. Walk down a lane or fence row.
NEVER build a fire where you cannot control it.
NEVER cuss the landowner or threaten to take a poke at him if he calls your attention to some careless act.
DON'T FAIL TO READ THE ARTICLE "THE HANDWRITING ON THE WALL" which appears in this issue.
DON'T hunt right back of the barn or in the farm garden.
DON'T substitute chicken or duck for game.
DON'T forget to ask to hunt on someone else's land even if it isn't posted.
DON'T run all over the place or hunt in standing corn which has not been harvested.
DON'T hunt the fields where there are poultry and cattle and don't shoot among them.
In short DON'T do as you darn please just because you think it's a free country.
Remember that once a farm is posted you can no longer hunt there. *YOU* are the fellow who will have lost everything.

—Game Protector Albert J. Kriefski.



WHAT DOES A GROUNDHOG LOOK LIKE?

Far too many humans have already been shot in mistake for a wild animal or bird. None of them need have been "accidentally" wounded or killed had the offending shooters made certain of the object aimed at.

But which of the hunters shown in the illustration above might, at considerable distance, resemble a woodchuck to an anxious or nearsighted rifleman?

To prevent cases of "mistaken identity," groundhog hunters should wear clothing of distinctive coloration or pattern so that they will stand out in sharp contrast to the summer background. A white or light-reflecting, bright head covering, shirt or vest can well mean the difference between human safety and injury, or death.

In the 1950 woodchuck season, 4 hunters were killed and 27 were wounded by gunfire in Pennsylvania. The reason why the hunter toll of the 'chuck seasons is out of proportion, percentage-wise, to that of the "regular" seasons when many times the number of gunners are afield, is that most 'chuck hunters use rifles, not shotguns, and they fire high velocity ammunition. Gunfire victims in 'chuck season are likely to be struck by a slug, not sprayed by fine shot, in the vital head or neck region. In brush or high grass, the hair or dark headpiece worn by the careless hunter is reported by offending gunners to resemble the hair and body of a groundhog.

It seems, unfortunately, that many of the shooters involved were more intent on proving their prowess as marksmen, or on "bringing home the meat," than they were on definitely determining before firing that their target was a "whistlepig," definitely not a human.



Leg bands like the one worn by the mounted golden-eye above are an invaluable aid in duck management.

Fish & Wildlife Service photo by Van Huizen

WATERFOWL JIG SAW

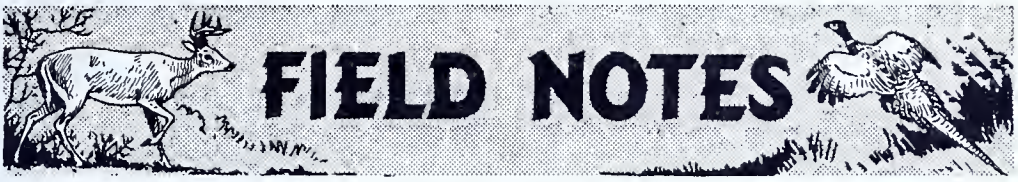
One of the important parts of the waterfowl study program that the average hunter is likely to run into is the banding phase. Banding is carried out the length and breadth of the country by federal, state, and private individuals who are interested in knowing what happens to our ducks. It is amazing to know how many quackers are carrying metal tags on their legs, and it is equally as amazing to know how many of these bands are picked up by hunters and never sent in to the Fish and Wildlife Service.

How does banding effect the waterfowl supply in Smart Weed Swamp? You shoot a duck and it carries a metal ring on its foot—"No. ooooo—return to the Fish and Wildlife Service." Return this band to the Service and their biologists will use this important information to piece together a region-wide survey.

Many times the origin of your bird is a surprising story. The bird may have traveled hundreds or even thousands of miles before deciding to drop in at your favorite little marsh. It is one of the most important problems in the management of our ducks to keep the birds coming to the *little areas* because a lot of little areas make a lot of ducks.

When you shoot a banded duck follow through and do your part in getting information for this important job. The whole waterfowl story is like a jig-saw puzzle and you aid in fitting in one of the pieces when you *send in your band.*





White Fawn

HILLSGROVE—An albino fawn was found in my district in the past week by Forest Ranger Louis Rosbach of Hillsgrove. He was able to secure pictures of this rarity. This makes a total of five albino or part albino deer that have been reported to me from my district. One is a nice buck that will make some sportsman a fine trophy.—District Game Protector Robert K. Benscoter, Laporte.

Big Families

SUSQUEHANNA—I have noted an unusually large amount of grouse in my district. Have observed four females with ten to fifteen chicks per female in the past two days on State Game Lands No. 35 near my food plots.—District Game Protector Irwin A. Weibel, Jr., Susquehanna.

Muskrat Diet

GETTYSBURG—Red foxes are becoming very plentiful again. When distributing crow repellant for farmers on the projects I talked with several who had seen young foxes. Later I went to one of the farms and located a den. I set two traps and in four days caught six half grown reds. Later I learned that another man had shot four young and an old dog fox on his neighbor's farm. I set two traps there and in a couple of days caught two more foxes. The man who shot the foxes told me that when he located the den he found the hides of twenty-eight muskrats, six chickens, and a lot of rabbit and mice skins around the den. At the den where I caught the six there were the hides of eight muskrats, two pheasants and one chicken.—District Game Protector Leo E. Bushman, Gettysburg.

Doe Tagged and Re-tagged

MILFORD—On May 28 an eight year old deer carrying a male and female embryo soon to be born, was killed on Route 209 in this district. This deer wore a New Jersey ear tag. The game warden at Sussex, N. J., said that the doe in question had been trapped on the Hercules Powder Company property two years ago and was released in the vicinity of Montague, N. J. The deer evidently swam the Delaware River in search of greener pastures an, as a result, has the questionable distinction of being the second ear-tagged New Jersey deer to be killed on Route 209 in Pike County within two years.—District Game Protector John Lohman, Milford.

Divot Diggers



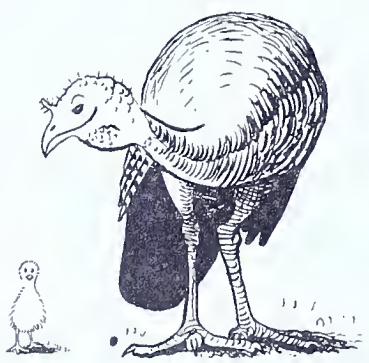
KRESGEVILLE—Skunks are doing extensive damage to the fairways of the Indian Mountain golf course, near here. Mr. Henry Weiss, the owner, estimated the damage will cost over two thousand dollars to repair. So far, Deputy Game Protector Vernon Solt has trapped and killed over twenty skunks during the last two weeks in June.—District Game Protector John H. Doebling, Stroudsburg.

Midnight Snack for Slugs

NORTHUMBERLAND—Recently I loaned a rabbit trap to Mr. Warmkessle, of this place, whose young flower shoots were being eaten by what he presumed to be rabbits. He went out to look at the trap one night and instead of finding a rabbit in same he noted a slug was eating off one of the plants. He made a further search and found and killed a total of 76 slugs that night. The next night he looked again for a rabbit in the rabbit trap. No rabbit was found, but he again located a total of 57 slugs in the garden, which he promptly killed. This proves that at times rabbits are accused of doing damage to our plant life when in reality it is something else.—District Game Protector Bruce P. Yeager, Northumberland.

Strange Bedfellows

MARIENVILLE—Turkey Hunters hunting in Forest County this fall will have to be on the lookout for a bantam turkey. As far as we know this turkey must have lost her own



brood and as a last resort came into a farmer's back yard and adopted his bantam chick. The turkey and bantam pay a visit to the farm occasionally but the farmer cannot get the peep from its foster mother due to the turk giving him an awful fight every time he tries.—Arthur T. Biondi, Alleghany National Forest.

Good Prospects for Birds

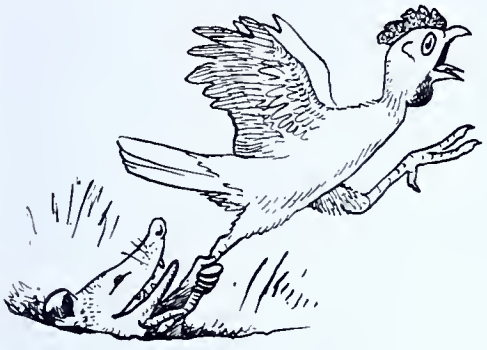
CANTON—Young turkeys and grouse are showing up in good numbers in the district. During the past week I have observed four broods of grouse numbering eight to eleven, and five broods of turkeys. One of the turkey hens had seventeen young with her. This is the largest brood I have ever seen.—District Game Protector Duane E. Lettie, Canton.

More About Killer Dogs

WILCOX—One of the toughest jobs I have ever encountered as a Game Protector occurred this past month. I received a call from a resident in the Rocky Run area saying that dogs were chasing a small fawn deer and he believed that they had crippled it. I immediately went to the area and found there a very young fawn with the entire hind quarters torn and bitten away. The fawn bleated pitifully as it tried to get away by crawling with its front feet. I dispatched it with a bullet in the head, and believe me, I could have shot every dog in Elk County without a qualm at that precise moment. However, I guess that dogs cannot be judged too harshly for their natural instincts—rather the owners are really to blame, and should be made to suffer the penalties rather than the dogs.—District Game Protector Vern A. Van Order, Wilcox.

Bumper Crop of Fawns

TYRONE—On June 16 the hired hand of Mrs. Knisel on Farm-Game Project No. 110 thought nature was playing tricks on him. While mowing a five-acre field of timothy and clover he carried six different fawn deer to the edge of the field, away from the mowing machine. But even after all these precautions an additional two fawns were killed by the mowing machines.—District Game Protector Dean M. Crooks, Bellwood.



Predacious Possum

BLOOMSBURG—After several attempts to run down foxes reported to have destroyed several dozen chickens at a commercial poultry plant, closer investigation revealed the culprit to be an opossum which had his home in the center of the chicken range. Several more holes in the ground nearby, no doubt, contained more opossums, but prompt work with the owner's tractor evidently put the quietus on the varmints, as no more trouble has developed.—District Game Protector Mark L. Hagenbuch, Bloomsburg.

Big-eye and the Blacksnake

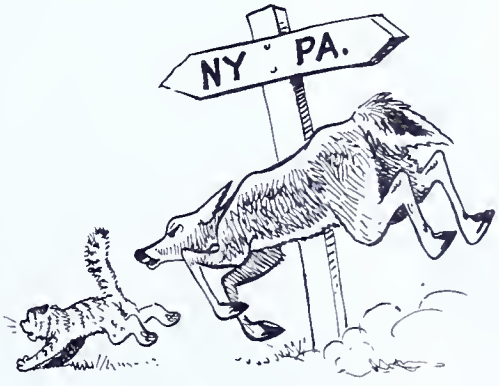
SOUTH GIBSON—I have known of a covey of woodcock in one of the marshy areas on State Game Lands No. 219 for some time, but on one particular day while passing through the area I failed to see the birds. Upon trying to locate them I discovered the mother bird making quite a fuss over something in the high grass. I moved over and saw a large blacksnake moving in for its afternoon meal. However, the mother woodcock was between the snake and her young, ready to defend her babies or die in the attempt. Fortunately this was not necessary. I killed the snake and left the birds to go back to their marshy home undisturbed.—District Game Protector Dale O. Fisher, South Gibson.

Bloodthirsty

HUNTINGDON—On June 11 I received a call from a farmer about losing some chickens. Upon reaching his farm I found that he had trapped the predator—a female mink. It was a real pity that this valuable furbearer had to be taken when the fur was not prime, but in one night she had torn the throats of nineteen spring chickens.—District Game Protector Dean M. Lesnett, Huntingdon.

Our Loss—New York's Gain

WARREN CENTER—While establishing the boundary of State Game Lands No. 219 recently two Game Commission surveyors had an opportunity to witness a doe deer supposedly protecting her young. These men were working along a fence row near which they had recently seen a fawn when they heard a great commotion and much snorting in the nearby woods. Presently a cat emerged, going full speed, closely followed by a doe deer in hot pursuit. With a very little distance separating them the cat was chased right out of the state! Indeed, that's what happened, for at that point our Game Lands are bounded on the north by the State of New York. We do not know the outcome of the chase, for when the deer sighted the men she bounded away.—District Game Protector Donald G. Day, Warren Center.



NEW LAWS—1951

A resume of the amendments to the Game Law to date during the present Legislative Session is outlined in Section sequence as follows:

ACT No. 169, which was SENATE BILL No. 425, was approved June 28, 1951 and became effective immediately, and amends Section 411 of the Game Law concerning shooting regulations on regulated shooting grounds by extending the seasons for certain classes of Regulated Shooting Grounds. Under the new law, in areas where wild ringneck pheasants and bobwhite quail of the sub-species approved by the Commission do not thrive and normally produce a shootable supply of these birds or on those grounds which are commercially operated and are open to public use, the season for ringneck pheasants, bobwhite quail, chukar partridges, and mallard or black ducks more than two generations removed from the wild shall be fixed by the Commission without regard to the general statewide open season for small game, thus leaving the seasons entirely at the discretion of the Commission.

On all other regulated shooting grounds of the state the season for such domestically produced ringneck pheasants, bobwhite quail of the sub-species approved by the Commission, chukar partridges and mallard or black ducks more than two generations removed from the wild, shall begin on the opening day of the season for such game birds as fixed by law or by Commission regulation, and continue through the last day of February.

Mallard or black ducks less than two generations removed from the wild may be taken on all regulated shooting grounds only in accordance with the season established for waterfowl hunting by Federal regulations in effect for the Commonwealth of Pennsylvania.

ACT No. 249, which was HOUSE BILL No. 730, was approved July 19, 1951, and became effective immediately, and amends Section 501 (c) of the Game Law by abolishing the former special permit for antlerless deer costing $1.00, to be issued when the Commission declared an antlerless deer season under this plan in any county or any other portion of the State. The new law provides for resident and nonresident hunters to procure licenses and tags to hunt antlerless deer. If the Commission opens any county of the State to antlerless deer hunting, it shall be done only through this method. The Commission is required to decide the number of antlerless deer hunting licenses to be issued for each county at $1.10 each. Applicants must first have either a resident or nonresident hunter's license. Under the law, no application for antlerless deer licenses received from nonresidents shall be approved or licenses issued except during a period of 30 days immediately preceding the opening date of the season. Sixty percent of the licenses are to be made available for issuance by the County Treasurer of the county in which licenses are to be used while the remaining forty percent are to be issued by the Department of Revenue at Harrisburg.

Section 501 (d) is repealed in its entirety. This will eliminate the right of licensees and certain residents of the respective counties to abrogate an antlerless deer season declared by the Commission.

ACT No. 171, which was SENATE BILL No. 479, was approved June 28, 1951, and will become effective September 1, 1951, adds sub-section (e) to Section 501 of the Game Law. It provides that in each year in which there is an open season for hunting deer, there shall in addition be an open season for hunting deer with bows and arrows exclusively, unless otherwise declared by resolution of the Commission. The Commission is authorized to fix the duration of the season and sex of deer to be killed.

A Special Archery License costing $2.00 must be secured by all persons who desire to hunt during this special season. (No exceptions). No person can qualify for the Special Archery License without first obtaining a resident or nonresident hunter's license. This Special Archery License can be secured only from the Department of Revenue, Harrisburg, Pennsylvania.

The new law does not change the archery preserve law in Section 936. The Special Archery License also permits the holder to hunt on the special archery preserves with a bow and arrow during an open hunting season and if a person procures a Special Archery Preserve Permit, it also

permits him to hunt deer with a bow and arrow during the special season, thus making them interchangeable. Therefore; only one type will be issued which will be called Special Archery License and Archery Preserve Permit, and which can be obtained only from the Department of Revenue at Harrisburg.

ACT No. 151, which was HOUSE BILL No. 535, was approved June 28, 1951, and will become effective September 1, 1951, and amends Section 701 of the Game Law by liberalizing the provisions concerning the possession of legally killed game. Under former law, game legally killed could be had in possession during the open season and for 60 days thereafter. However, if a person secured a permit costing $1.00 from the Director or field representaive of the Game Commission to possess the flesh of game legally killed, game could be retained for an additional period not to exceed six months.

This provision is now repealed and the law permits the possession of game legally killed during the open season and up to and including July 1st of the following year.

Under previous law, in order to keep a lawfully taken live raccoon, a permit was issued without charge. This provision has been eliminated and live raccoons when lawfully taken in open season may be retained in possession indefinitely without a permit.

ACT No. 54, which was HOUSE BILL No. 484, was approved May 10, 1951, and will become effective September 1, 1951, and amends Section 704 of the Game Law by permitting the use of semi-automatic shotguns for the hunting and killing of small game, predators, and unprotected birds. The same regulations regarding magazine capacity apply to semi-automatic shotguns as to hand operated repeating shotguns.

ACT No. 24, which was SENATE BILL No. 237, was approved April 12, 1951, and will become effective September 1, 1951, and amends Section 714 of the Game Law by eliminating the tag formerly required for parts of a big game carcass when transported or carried. Any individual may now possess, transport, carry, or have an unmarked part of a big game carcass that has been cut up, but such person shall upon request of any law enforcement officer furnish the name and address of the person killing the big game animal and any other information required to properly establish legal possession in such person.

ACT No. 230, which was HOUSE BILL No. 931, was approved July 19, 1951, and will become effective September 1, 1951, and amends Section 719 of the Game Law by extending the dog training season from August 20 to the 31st day of March next following, to August 1 to the 31st day of March next following. Since this law does not become effective until September 1st, the new dog training season will not apply until 1952.

ACT No. 139, which was SENATE BILL No. 426, was approved June 12, 1951, and became effective immediately, and amends Section 721 of the Game Law by providing that the period for retriever trials shall be from the first day of October to the 31st day of March, instead of the present season, extending from October 15 to the 31st day of December.

ACT No. 49, which was SENATE BILL No. 394, was approved May 10, 1951, and became effective immediately, and amends Section 806 (a) while sub-sections (b) and (c) are eliminated entirely, thus removing the restrictions on uncased and unwrapped guns and loose ammunition in vehicles at certain times of the year. Under the new law it will be permissible to have uncased and unwrapped guns and loose ammunition in vehicles at any time *providing guns are unloaded.*

ACT No. 173, which was HOUSE BILL No. 45, was approved June 28, 1951, and will become effective September 1, 1951, and adds Section 808.1 to the Game Law. This Section makes it unlawful to hunt or trap or attempt to trap wild birds or wild animals of any kind, or to shoot or discharge any firearm or other deadly weapon or to dress out wild game within any cemetery or burial grounds. Any game protector or his authorized agent may capture, kill or remove game or vermin from the cemetery when requested or authorized by cemetery authorities, and firearms may be discharged under the jurisdiction of any memorial or honorary service.

Game Commission Declares Special Open Season to Hunt Antlerless Deer December 14 and 15, 1951

The Pennsylvania Game Commission, by resolution adopted at its meeting on July 5, 1951, and pursuant to authority conferred upon it by law, declared an open season for the hunting, taking and killing of antlerless deer (deer without visible antlers or horns), regardless of sex, size, age, or camp limit, on December 14 and 15, 1951, throughout the entire Commonwealth, except in Game Refuges or Propagation Areas (other than on any of the latter which the Commission may later specifically declare open to deer hunting) established by the Commission, during which time antlerless deer may be hunted for and taken only in the manner prescribed by the provisions of the Game Law and resolutions and regulations of the Commission.

The quota of Antlerless Deer Licenses for each County, as made available by action of the Commission, is as follows:

Number Of Licenses Allocated For Issuance By:

County	*County Treasurer*	*Pa. Dept. of Revenue*
Adams	378	252
Allegheny	108	72
Armstrong	984	656
Beaver	216	144
Bedford	2,022	1,348
Berks	864	576
Blair	1,716	1,144
Bradford	2,880	1,920
Bucks	246	164
Butler	930	620
Cambria	1,434	956
Cameron	3,522	2,348
Carbon	1,188	792
Centre	5,712	3,808
Chester	138	92
Clarion	1,350	900
Clearfield	4,830	3,220
Clinton	4,794	3,196
Columbia	1,134	756
Crawford	1,428	952
Cumberland	756	504
Dauphin	1,188	792
Delaware	30	20
Elk	8,004	5,336
Erie	960	640
Fayette	1,380	920
Forest	4,656	3,104
Franklin	972	648
Fulton	906	604
Greene	108	72
Huntingdon	3,240	2,160
Indiana	1,536	1,024
Jefferson	2,310	1,540
Juniata	930	620
Lackawanna	852	568
Lancaster	120	80
Lawrence	192	128
Lebanon	474	316
Lehigh	204	136
Luzerne	3,078	2,052
Lycoming	6,072	4,048
McKean	8,772	5,848
Mercer	444	296
Mifflin	1,176	784
Monroe	2,766	1,844
Montgomery	84	56
Montour	192	128
Northampton	324	216
Northumberland	582	388
Perry	1,272	848
Philadelphia	..	..
Pike	3,588	2,392
Potter	10,218	6,812
Schuylkill	1,836	1,224
Snyder	498	332
Somerset	3,078	2,052
Sullivan	3,426	2,284
Susquehanna	1,728	1,152
Tioga	5,640	3,760
Union	918	612
Venango	2,508	1,672
Warren	5,886	3,924
Washington	42	28
Wayne	2,496	1,664
Westmoreland	2,106	1,404
Wyoming	1,362	908
York	216	144
Total	135,000	90,000

IMPORTANT INFORMATION—PLEASE READ CAREFULLY

SPECIAL ANTLERLESS DEER LICENSE—Fee $1.10 (Valid only in County for which Issued)

1. Under the provisions of an Act of General Assembly, 60% of the total licenses available for any county shall be issued by the *County Treasurer of the County affected,* the remaining 40% of such licenses by the *Department of Revenue, Division of Miscellaneous Licenses, Harrisburg.*
2. Licenses will be issued *strictly in the sequence in which completed applications, with remittances attached, are received.* If county allotment is exhausted upon receipt of application, fee and application will be returned. Do not send applications to the Game Commission.

3. The license and tag are not transferable and will be valid and can be used to hunt antlerless deer only in the county designated thereon.
4. Members of groups desiring to hunt in the same county must file individual applications.
5. Antlerless Deer Licenses shall be issued only to residents and nonresidents of the Commonwealth who have first secured a lawfully issued Resident or Nonresident Hunting License for the current year. Under the law, no application for an Antlerless Deer License shall be approved or license issued to a nonresident prior to November 14, 1951, or after December 13, 1951.
6. Landowners, lessees, or other farm occupants, who are citizens of the United States residing upon and cultivating lands lying within areas declared open for the hunting of antlerless deer, may legally hunt for such deer on their own and adjoining lands without either a Resident Hunting License or an Antlerless Deer License. Written permission of the adjacent landowner is required by law. Hunting on adjoining open lands which are owned by either the Commonwealth or the Federal Government is not lawful without a Hunting License and a Special Deer License.
7. There is no camp limit during 1951, but an individual may kill only one deer. Any person who, during the year 1951 killed a legal antlered deer may not lawfully stand on watch, kill or attempt to kill an antlerless deer during the two-day special season, December 14 and 15.
8. The law makes no provision to refund fees for licenses issued. The only exception will be in case the fee is erroneously accepted.
9. Maps showing "deer territory" in the State are not available.
10. No person may hunt for Antlerless Deer during the Special Season on December 14 and 15, 1951 without first having secured a Hunting License and an Antlerless Deer License, unless permitted by law to hunt without a license as described in paragraph 6.

RULES FOR DOVE, RAIL AND GALLINULE HUNTING ANNOUNCED

The Department of The Interior recently announced the 1951 regulations under which rails, gallinules and doves may be hunted. Detailed regulations for migratory waterfowl hunting will not be issued, however, until the latter part of August, the department secretary said.

The open season for rails, gallinules and sora in Pennsylvania this year will extend from September 1 through October 30.

Mourning doves may be taken in this state from October 8 through November 6.

Daily shooting hours—Gallinules and rails, including sora, the same as last year, ½ hour before sunrise to 1 hour before sunset, Eastern Standard Time.

Shooting hours for mourning doves. From October 8 through October 31, twelve noon until sunset. From November 1 through November 6, twelve noon to 5 p. m., but not after sunset.

Daily bag limits: *Rails and Gallinules (except Sora).* Not more than 15 in the aggregate of rails (other than sora) and gallinules. *Sora.* The daily bag and possession limit is 25 birds. *Mourning or turtle doves.* The bag and possession limit has been reduced from 10 to 8 birds.

Firearms. The federal regulation prohibits the use of shotguns capable of holding more than 3 shells. The shotgun plug must be incapable of removal without disassembling the gun. In addition to hand-operated repeating shotguns, semi-automatic shotguns are now permitted in Pennsylvania, provided the 3 shell and plug regulations are observed for taking small game, predators and unprotected birds. Doves, rails, gallinules and sora may be taken only through the use of shotguns, not larger than 10 gauge. Rifles may not be used in taking any migratory game birds.

License. A federal migratory bird hunting stamp (duck stamp) is not required to hunt rails, gallinules, sora, and doves. A 1951 Pennsylvania resident or nonresident hunter's license is required.



Southward Ho!

By Grace O. Beach

I DO NOT know whether it was the color insert of birds which appeared in the May issue of GAME NEWS or a previous interest in birdlife which envoked so many questions about our feathered friends recently. The gratifying thing is that they were received. The important thing is that they be answered.

However, we found that we didn't know the answers to most of them because they concerned the mystery of migration.

Where did they come from and where are they going? How do they find their way over miles and miles of country each spring and fall and how long does it take to make the flight? So these queries went.

Some of the earliest recorded observations were made by Aristotle, naturalist and philosopher of Ancient Greece and by Pliny the Roman Naturalist. They were followed by hundreds of students constantly delving into the strange comings and goings of birds. All through these years intervening, wildlife sleuths and naturalists have noted certain actions and movements and from these observations have sprung up many theories and as many myths.

Many of the theories advanced have proven sound. Others were not so realistic and have long since been discarded or were pigeonholed as purely mythological. While many notes have been gathered through the years it is only during the past half century that a scientific approach has been taken toward solving the mystery and correlating the information. During this time, the United States Fish and Wildlife Service has constantly conducted scientific studies and collected a file of well over three billion entries of accumulated information. They have been aided materially by various conservation groups, bird students and volunteer ornithologists in these studies, so that today we have more knowledge on the subject than at any time in the history of the world.

Much of our present information has been gained by the banding of birds and through the cooperation of sportsmen and students who returned these bands with the date, time, place and method of recovery. Through this means, lengths and times of flights are no longer a mystery. Flyways have been fairly well established, and much other information has been added to our storehouse of knowledge. However, much remains to be done before the mystery of migration is fully explained—if it ever is completely solved.

But there is hope. All the ideas and theories advanced throughout the years seem to have dwindled down to a possible four theories, briefly summed up in this manner.

The first two have a common belief that migration has become a definite hereditary habit, an annual event brought about by a natural urge to reproduce causing the species to seek good breeding conditions and year-long food supplies. Then the common theory divides itself into two camps. The first group think that many birds occupied the entire northern Hemisphere at one time with sufficient supply of food to permit their remaining the year around. As

the glacial period advanced the birds were driven southward for survival. As the ice retreated they endeavored to return home, but were constantly driven back each year by winter's icy grip which eventually became a habit of movement.

The second group thinks that the tropics were the original habitation, and that overpopulation and lack of food caused them to seek further fields where competition was not so keen. However, as winter advanced, they too, were annually driven back to their homeland. As the glacial ice retreated they moved farther and farther north, but the habit became ingrained and an hereditary trait.

Some of the more modern students advance the argument that the quantity of light and length of day are the stimulating causes of migration. They have more or less discounted the lack of food or need for change of latitude as the contributing factor. They argue logically, that robins, bluebirds and many other like species, leave the South and an abundant supply of food, for the north where food supplies are almost entirely lacking upon their arrival. Swallows and other birds, by the same token, will leave while the summer food of the north is at its very peak and return to the south.

The fourth theory deals with the idea that migration was brought about by the Continental drifts which caused a natural behavior pattern to develop and therefore the migration habits would have been developed some millions of years ago.

No matter what theory you subscribe to, they all have their interest and keep the students of each continually at work delving further into the subject.

Regardless of the origin or cause of migration, or which theory finally becomes the generally accepted one, there are many interesting facts.

For instance, they have determined the general breeding range of most species of birds, they know the time and length of flights, their migratory routes and winter habitats. Many species such as shorebirds and others begin their southward movements early in July, while the waxwings and goshawks do not leave until severe winter sets in. This means that you have an almost constant movement of birds to the South, from mid-summer until winter. The same seems to hold true on the return journey north which runs from mid-January to the first week in June.

Another question that still brings much conjecture is the movement of flight during a given twenty-four hours. Some birds fly at night and are known as nocturnal fliers, while others move during the day and are called diurnal fliers.

Most of the sparrows, the thrushes, orioles, woodcock, shorebirds and many others fly by night. A telescope focused on the moon will show an endless procession of birds, winging their way under cover of darkness. One observer has estimated the rate of passage at the heighth of the migratory season to be about nine thousand birds an hour. While some flights are night long, the most popular flying time seems to be from eight P. M. to midnight and from four to six A. M.

Some students believe that the small birds migrate at night to avoid their natural enemies and because they are naturally timid or weak winged. However, this is not true in all cases because several of the night fliers are strong winged. For example the plover, a nocturnal flier, is strong winged and makes flights of approximately two thousand miles.

Many birds will avoid flights over water, traveling great distances in order to keep to the land. Others deliberately choose the water route.

The speed and flight of birds vary greatly. Much information has been gathered from banded birds on this subject. Thousands of banding rec-

ords indicate that rapid flights are the exception rather than the rule, and that in most instances a thousand mile flight will require from two to four weeks. The blue-winged teal, known as the fastest flying duck, will cover two to three thousand miles in a thirty day period. The fastest record for this species was established by a young male teal which moved from Northern Alberta Canada to Maricaibo, Venezuela in exactly one month. However, some birds do make rapid flights, setting an average speed of about 130 miles per day.

The height at which the birds fly seems to vary. Some have been observed flying extremely low, while cranes and storks have been noted flying at approximately twenty thousand feet above sea level. Most migratory flights are under three thousand feet and rarely above five thousand.

Some species separate during migration, the males flying together and the females accompanied by their young making a later flight. In other groups, the mated pairs fly together. Some groups keep strictly to themselves and the whole flight will be one species. Others mix together and several species will be found in the flock.

There is much more of very great interest but obviously it cannot be included in this brief article. If you are interested in the subject or have some Junior members in your family who would like to know more about bird-life and their migrations for school lessons, it can be found in a new booklet titled—"Migration of Birds" recently issued by the United States Fish and Wildlife Service. It is a most interesting and worthwhile publication. Copies can be obtained by sending thirty cents to the Superintendent of Documents, Washington, D. C. Don't be surprised ladies, if the man of the house confiscates the book as soon as it arrives. If he gets it first, you will have to wait till he has read the 100 odd pages before you will bet your chance to delve further into the many interesting facts concerning the migration of birds.

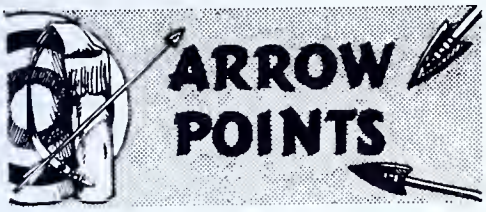
A Delicious Morsel

The woodcock is a migratory game bird and one of these days will suddenly appear in many areas where none were seen before, stopping to rest and feed as they move southward. They are good sport and many hunters will be out during the open season on these birds to try their luck. They are small but the last word in delicacy and delicious flavor when properly done. The meat of this bird is dark and it should never be overdone but always slightly on the rare side for best flavor.

If you are lucky enough to bag some of these mysterious and wily fellows you're in for a real treat. Here is how to do them to a turn. Pluck and clean the birds. Rub with salt, pepper and melted butter. Place in a roasting pan with a tablespoonful of butter or bacon drippings to each bird. Bake at about 450 degrees for no longer than five minutes for rareness and not longer than 25 minutes if you prefer them on the well-done side. It is important to baste them frequently while roasting.

Remove from oven and transfer to hot holding pan. Make a gravy of one tablespoon of water to each tablespoon of drippings used and heat. Have toast square ready on each hot serving platter and spoon gravy over toast place bird on top and serve quickly. To round out the meal serve french fried onions, a tossed salad and buttered carrots or carrots and peas. You will have one of the finest meals you've ever eaten. A great many people relish wine with game, and in this instance a glass of burgundy is the perfect compliment.

. . . *The End*



Shooting Technique

By Thomas A. Forbes

PART III

AIMING

THE archer has a choice of three methods of aiming: Direct, Indirect, and Hunting.

The direct or bow sight method of aiming has in recent years become increasingly popular over other methods of aiming on the target range and is gradually supplanting the indirect or point of aim method.

The hunting aim generally employed in combination with the high anchor is favored by field shooters. This method of aiming, erroneously referred to as the Instinctive Method is comparable with the wing shot's method of pointing a shot gun when shooting at grouse or other fast flying birds. The shooter does not depend on sights, but rather fits the weapon to his line of vision.

Like the grouse hunter, the archer will acquire the ability to judge unknown distance and to deliver an arrow to the mark only through continued practice. Once he has acquired this ability he can draw and release an arrow quicker than by any other method, a distinct advantage when game is flushed from hiding by the hunter.

Using the high anchor the hand is raised along the side of the face and the head is tilted a bit to the right to bring the right eye directly over the arrow to line it up with the target. The top of the bow is also canted slightly to the right. Keep both eyes open and focused on the center of the target while shooting. As you draw indirect vision will permit keeping the arrow in proper alignment.

Aiming By Use of a Bow Sight

The scores of target archers have shown consistent improvement since a sight has been adapted to use on the bow. Similar in principle to an adjustable rear sight on a rifle, the bow sight can be adjusted for elevation and windage or horizontal deflection. The sight is affixed to the back of the upper limb of the bow just above the grip, and permits the target archer to sight directly on the target instead of using the former method of sighting over the point of the arrow at a point of aim.

The novice can easily construct a simple bow sight from materials available in the home. Cut a strip of light felt about seven inches long and one half inch wide from the brim of an old hat or secure a flat slab of cork of the same dimensions and about one-eighth of an inch in thickness and glue it to the back of the bow just above the grip. An ordinary pin may now be inserted in the felt or cork with the head projecting beyond the side of the bow on the same side as the arrow plate. The approximate location of the pin can be determined by trial for the various distances. The points once located should be marked for future use, altho changes in atmospheric conditions and temperature will necessitate minor adjustments from time to time. The bow should be sighted in at the various distances before each scoring attempt.

Horizontal correction in sighting is made by changing the distance the pin head is permitted to project beyond the side of the bow. To provide a white surface on which to mark the various sighting distances, a strip of adhesive tape may be placed on top of the felt or cork.

Manufactured bow sights range in price from $1.25 for the simpler type to $5.95 for a bow sight designed for one of the well known makes of metal bow. Regardless of the type of bow sight it is wise to disregard the provisions the manufacturer has made to attach the sight to the bow with screws. A screw inserted in a wood or metal bow creates a weak point. Instead, bind the sight to the bow with adhesive tape. In the manner there is no danger of damaging the fibers of the wooden bow or creating a plane of weakness in the cross section of the metal bow. In using a bow sight the archer must be sure to draw his arrows full, for he does not see the point of the arrow as when using the point of aim method.

At a fixed distance, the lighter the drawing weight of the bow the closer the sight will approach the position of the arrow plate. When this point has been reached and the archer wishes to shoot at a greater distance he uses a special prism sight. The prismatic principle permits the archer to elevate the bow so that the arrow will carry the longer distance. The prism is equipped with cross hairs and the image of the target is viewed through the prism.

Adjusting a bow sight for elevation after the initial setting has been found by trial and error, can be done accurately by making use of a simple geometric principle. Shoot an end of six arrows into the target and let us assume that the center of the group of arrows is at six o'clock in the blue. To adjust the sight for elevation extend the bow arm full length toward the target with the bow held vertically and the back of the bow toward you. Move the bow vertically until the sight is on the line of vision from your eye to the center of the target or gold. Now with the nail of the left thumb mark the point on the back of the bow which is in line of vision from your eye to the center of the group of arrows. Check this finding by making certain the sight is still in line with the gold. Now move your sight to the new position which you have just located. The new sight setting is correctly located to place the center of your next group of arrows in the gold. A simplification of the rule is; the sight moves down when the arrows fall below the gold and moves up the bow limb when the arrows are above the gold.

Using a Point of Aim

The underjaw anchor is generally used by the champion target archers and is conceded to the most accurate shooting position. In this position the eye is at a higher elevation than the nock of the arrow and the archer cannot sight along the shaft of the arrow as a gunner sights along the barrel of a shotgun. The archer sights over the point of the arrow and an angle is formed between this line of sight and the line the arrow follows as it flies toward the target.

Due to the curved trajectory of the arrow it is necessary for the archer to determine the point on the ground at which he must sight in order that the arrows will land on the target. This point is marked by a small object that is easily seen. In using an aiming point, the point of aim should appear to rest on the tip of the arrow. If the arrows fall short or low on the target move the point of aim toward the target and conversely if the arrows are high or over the target move the point of aim toward the shooting line until the arrows group in the middle of the target. The point of aim is properly placed

on the imaginary line extending from the shooting peg to the center of the target. Since it is customary for two archers to shoot at the same time, they take their positions one on either side of the shooting peg which marks the center line. Generally a point of aim archer prefers to face the shooting peg as this position compensates for the amount the bow shoots to the left of center.

After the point of aim is correctly located for elevation, corrections to the right or left of the center of the target are made by moving toward or away from the shooting peg along the shooting line. If necessary, horizontal correction can also be made by shifting the point of aim to the right or left and keeping a fixed position on the shooting line. At the longer distances the point of aim may be on or above the target. Once the point of aim has been established the archer places a foot marker on the ground at the point of each toe so that he can assume the same position each time he comes to the shooting line. So that they do not interfere with other archers, foot markers should always be constructed so that they are flush with the ground when placed on the shooting line. A foot marker is only a large metal thumb tack with a disc about the size of a quarter of a dollar.

Recording the Point of Aim

Once a point of aim has been established for a fixed distance the archer may use a range finder to record this distance for future use. A range finder, is made from a thin piece of wood about six inches long. The wooden stick used as a handle in chocolate covered ice cream pies is ideally suited to the purpose. Cut a small V shaped wedge in each side of the stick near one end and cut another V shaped wedge in the same end. Tie a length of string to the stick at the notches in the sides. Hold the stick vertically at arms length in front of you at eye level with the thumb and first fingers of the left hand. With your right hand stretch the string back until it touches your teeth. At this point on the string tie an ordinary shirt button. Now if the button is held in position against the back of the teeth and the string extended to its full length the stick will always be at the same distance from the eye. To steady the extended left arm use your bow as a rest. Sight over the top of the stick to the gold. Keep the range finder in this position and sight to your point of aim. Move the thumb nail of your left hand up the stick until the nail intersects the line of vision. Mark this point on the range finder by a pencil line and indicate the yardage. To re-establish the point of aim the next time that you wish to shoot at this distance, sight over the top of the range finder at the gold as before, then use the pencil mark as a sight to locate your point of aim on the ground.

To be satisfactory, a point of aim marker should fulfill two conditions. First, it should be small so that the archer will consciously center the arrow point each time he aims. Second, the marker should have high visibility in order that it appear distinct to the archer. A bright metal ball slightly larger than a golf ball and affixed to a pointed rod about six inches in length which can be forced into the turf to hold the marker in place makes an excellent point of aim. It has the advantage over a flat disc that it reflects the rays of the sun from any angle and is therefore highly visible whereas the surface of a flat disc may be in shadow at an inopportune time.

. . . *The End*

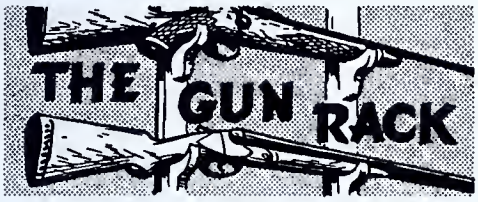
MODERN WEAPONS TAKE A BACK SEAT ~



Above: After one season hunting with muzzle-loaders Bill H. Shunk, of Dormont, Pa., reverted to modern arms for his hunting forays. But Bill still has fun with the old guns. He not only collects them, but his favorite hobby is repairing them and putting them in shooting condition.

Right: Ken Oldham, of Scalp Level, Pa., bagged twelve chucks with his bow and arrows last year—the two in the picture were shot within a half hour. We don't know how Ken is doing this season, but can anyone beat his 1950 record?





The Handgun In the Woods*

By Ed Shearer

BANG! BANG! BANG! spat the big automatic. "What's holdin' him up"? questioned Stanley.

"Stand aside, brother," I replied, sliding the .44 special out of its holster. The porcupine was groggy from a succession of metal-jacketed bullets from the .38 Colt Super passing through him, but he was still sticking to the limb of the red pine tree. At the blast of the heavy gun, Porky came hurtling down to earth bringing a shower of dead branches with him.

The heavy 250 grain Heathe bullet with a flat split nose and sharp shoulder, driven by a hefty charge of Du Pont No. 80 powder took Mr. Quill Pig square in the shoulder and lifted him right off his perch.

Nine of those metal-jacketed Supers scrambling along at 1300 f.p.s. had connected with the porky, most of them solid body hits. The combined effect was to mess up the porky's internal mechanism but they lacked the punch to blast him loose from the limb. On the other hand, the heavy .44 Special with the flat split nose expanded perfectly blowing both shoulders to bits and wafting him to the bosom of his ancesters in a hurry.

This happened many years ago when I was in the Forest service. An influx of porcupines in my pine plantations was assuming serious proportions, and, while I disliked killing nature's small citizens, something had to be done. So I called in Stanley to take part in the iminent decrease in the quill pig tribe, and to settle some long-standing arguments on killing powder. Stanley was a noted target shot as well as a keen hunter who devoutly believed in paper ballistics.

Ten quill pigs were removed from this vale of tears—six with the .38 caliber and four with the .44 Special S & W using the .38 calibers only one pig was knocked out of a tree with a single shot. He was a small immature animal and I stoutly maintained he got scared and fell out. The rest took two to five solid body hits before they let go.

The .44 Special knocked four out of the trees with four shots. The net result not only shook Stanley's faith in paper energy but had him buying bullet molds for different type bullets.

This experience showed that while the handgun has a definite valuable place in the outdoors, its usefulness is clearly limited by bullet type rather than paper energy.

During a career of 45 years in the outdoors I have carried many makes, models and calibers of handguns. On the target range I have shot many more. I have made trips in wild country where weight and portability made a rifle impractical, and meat depended on the ability of the handgun to deliver. It is natural, therefore that I have acquired some defi-

* The author's hunting experiences have carried him far from the borders of the Keystone State, and this fact should be borne in mind when he refers to the use of automatic weapons in hunting. Although semi-automatic shotguns have recently been legalized for taking small game, predators and unprotected birds and animals when limited to a 3-shot capacity, the use of such semi-automatic shotguns is prohibited for hunting big game. The Pennsylvania Game Code also forbids the taking of any bird or animal with an semi-automatic pistol or rifle.

nite ideas on the value of various pistols and revolvers and the conditions under which I would use them.

First let me state that it is entirely practical to kill any big game on this continent with a handgun. There is plenty of evidence on that score. Major Douglas Wesson hunted and killed just about every kind of big game found in North America, up to, and including the Grizzly. Elmer Kieth of Idaho has killed deer, bear, goats and elk. Jay Bruce, a government hunter killed well over a hundred mountain lions. His favorite gun was a 38/40 S. A. Colt. This is a good illustration of the right gun in the hands of the right man. These big cats had to be killed clean as good lion hounds are valuable property. Bruce used this gun for years, so you can gamble that he didn't waste money buying dogs if using a rifle would have prevented it.

I've killed several deer and alligators in the Everglades country, as well as innumerable small stuff, but I do not recommend handguns for big game. The average man will not spend sufficient time to acquire the necessary marksmanship with a pistol or revolver, or the stalking skill to get shooting at game at reasonable ranges.

The twenty-two caliber handguns are fine outdoor arms when properly used. Their best feature is the fact that the low cost of ammunition will probably encourage you to shoot them enough to attain a certain degree of skill. They should be used on nothing but small game and birds and then only with the hollow-point bullet. Big game has been killed with it but this is way beyond the capabilities of the gun.

The larger caliber handguns, with a few exceptions, are real sad sacks when used with factory ammunition. The round nose bullets usually loaded in the .32 and .38 calibers and even the .44 and .45 calibers are poor stoppers, even on small game. I've had a grouse get up an fly away with a .38 Special factory load through the body, later recovered. There are a few like the 32/20 and the 44/40 that have flat-nosed bullets, but these calibers are no longer made in factory arms. Colt discontinued the Shooting Master, New Service and the old Single Action. The .45 automatic is not a particularly good killer, and the same goes for the .38 Super with the present ammunition.

The best solution on the .32 and .38 Special is the wad cutter or Kieth design of flat-nosed, sharp-shoulder type bullet. The straight wad cutter seems to lose its accuracy fast beyond the 50-yard mark, so for velocities up to 1000 feet per second the Smith & Wesson Masterpiece or the Colts Officers model with a flat-nosed, sharp-shoulder bullet makes a fairly satisfactory small game gun, but is a little light for deer. Even chucks and porcupines will absorb a surprising amount of .38 Specials at longer ranges because of loss of velocity.

Here the .38/44 Outdoorsman is about the lightest gun that will fill the bill. The velocity can be raised to 1300 feet per second which adds considerable to the wallop at all ranges.

There are only two calibers available today that can be classed as big game handguns, in country where you have to depend on them for meat. The one is the well-known .375 Magnum made by Smith & Wesson. It will handle the regular .38 Special factory-loaded wad cutter, which is a good small game load. Then if a deer is needed you can use the factory-loaded .357 Magnum lead bullet, or better still a hollow point hand-loaded lead bullet at the same velocity. This is a good killer on side shots on deer. It's a good idea to sight the gun in for the heavy load and then shoot the light load

enough to know where to hold on small game.

The really "Skookum" gun for a game handgun is the .44 Special made only at this time by Smith & Wesson. I have shot one for over a quarter of a century and have killed every thing from camp rats to deer with it. It is highly accurate and one of the easiest calibers to reload for on the market, for it takes in its stride small tolerences that will upset the accuracy of the .38 Special. There is a wide selection of bullet types available for reloading. Take 3.8 grains of Hercules Bullseye behind a 200 grain wadcutter, for instance—that load means meat in the pot on small game. Accuracy runs about an inch at small game ranges in my gun and a child could shoot it. A load of 18.5 grains of Hercules No. 2400 will drive a 250 sharp-shoulder bullet a full 1200 feet per second, with a lot more actual killing power than the .357 Magnum. Probably the most powerful handgun load made, it's wonderfully accurate at long range and will take a deer at any old angle. Since the death of Bushnell Smith, I understand that Bob Moody, of Helena Montana, will furnish custom loads for this caliber. If you load your own keep your bullets not more than a thousandth oversize, as this is a maximum load.

In the matter of sights for game shooting as long as they are adjustable so that the point of aim and the point of impact can be brought in close relation, the make and type of sights are a matter of personal preference. I like crullers—you like cake.

The last point to remember is when you are shooting for meat forget the target range. Use two hands and any position that will give you a steady hold including sitting or lying down. Remember you are shooting to eat with a game handgun and the only way the pot will boil is to connect with "what you're shootin' at."

. . . The End

SOME WOODCOCK HUNTING TIPS

When you're looking for likely spots to hunt the timberdoodle pay particular attention to the ground cover. They like crab grass, Canada blue grass and poverty grass. Never forget to take weather conditions into consideration. An experienced Woodcock hunter hunts high when the weather is wet, for it must be remembered they do not like wet feet. However, when the weather is dry, hunt the lowlands.

Any gun will do but the load you use in it is important.

Every man has his own particular likes and dislikes. However, if you use a 12 gauge shotgun with a No. 9 shot, you have 585 pellets to an ounce, in either Remington Express or Western Super X, or with an ounce and a quarter shot, you will have 731 pellets.

The 16 gauge with an ounce and an eighth shot gives 658 pellets and with a 20 gauge using an ounce shot, you have 385 pellets.

On the 410 you have to be able to really hit. If you use a 410, center your shots. With a three quarter ounce shot you get 438 pellets, so your pattern is not so dense.

If you use a full choke then your pattern is different. The 16 gauge will put 461 pellets in a 30 inch circle at 40 yards, and a 20 gauge will give you about 410 pellets.

The 12 gauge open bore or cylinder gives you 292 pellets, whereas a 410 runs 175 pellets. The 16 gauge runs around 263 and the 20 gauge pattern is approximately 234 pellets. This is all good information but not withstanding the important thing is to learn how to shoot.





Training With Pigeons

By Herbert Kendrick

OUR forests and fields are swiftly giving way to new homes and industrial plants for a growing civilization, and modern farming methods are destroying the cover and food of our game birds, thus making it necessary for gunners to seek out wilderness areas that are often many miles from home, in order to have a successful hunt. During the open seasons, we do not hesitate to drive long distances to find wild game, but it is far from practicable to make such trips to train our gun dogs. There are too many dogs started in the gunning field, before being adequately trained, making a very bad situation for both the gunner and the dog.

Fully understanding the problems of finding sufficient terrain and game, E. M. Shelley has successfully and splendidly utilized the system of training bird dogs on planted birds. Trainers have proven that dogs trained on planted birds develop as well as those trained on actual wild game.

Pen-raised pheasants and pigeons are the most practical birds to use, and since pheasants are rather costly, pigeons are used almost exclusively. Strong flying birds can be obtained in unlimited quantities at a very reasonable price, and the cost and trouble of keeping them is at a minimum. After a few pigeons have been shot over a dog, he will scent them just as well and point them equally as well as he will point a pheasant or a quail.

Select a field as near your home as possible so that you will work the dog often. The field should be large enough for the dog to range, and should have sufficient cover to at least resemble a hunting field. Stake the dog under a tree, take a bird out of the crate and go about sixty or seventy yards upwind. "Dizzy" the bird by swinging it in short circles. This swinging makes the bird dizzy enough to remain motionless for from twenty to thirty minutes. When the bird is dizzy, place the head under the right wing and draw the feet out full length. Place the bird under the grass so that he will be upon the wing that his head is under. It is a help to place a stick upright near the bird as a marker.

One man can plant the bird, work the dog around the field allowing him to find the planted bird, flush and shoot, and handle the dog at the same time without too much difficulty. However, two men can accomplish greater results if the dog is young and has no experience at all.

The first time a dog approaches a pigeon he may not point it. If he does not, kick the bird out and shoot anyway because he will soon learn.

It is a good idea to teach the young dog to retrieve before working him on planted birds. This can be done at home with a freshly killed pigeon. Make sure he is force broken to retrieve, even though he may retrieve naturally, because when he is taken afield for serious work, the forced retrieve is more dependable.

During all phases of training on planted birds, be sure to wear leather gloves to prevent your own scent from lingering with the bird.

The advantages of training on planted birds are many:

(1) You may work your dogs close to home without the tiresome task of finding sufficient game.

(2) You can control your bird until you are ready to fire your gun.

(3) You may purchase pigeons at a low price, thus enabling you to kill enough birds over your dog to teach him to handle in a biddable manners, point and back staunchly, remain steady to wing and shot, and retrieve in a satisfactory way.

(4) When you kill pigeons for dog training, you are conserving game.

(5) You are not restricted to short seasons; therefore, your dog can be thoroughly finished before the gunning season opens.

Cocker and Springer Spaniels may be trained on planted birds also. However, the "dizzing" process must be a little lighter because the spaniel is a flushing animal and the bird must be given a chance to take to the air.

If you train a dog completely on artificial game, it will not be a bad idea to work in natural cover on wild game a few times before you take an important gunning trip. This will give him an opportunity to put into practice all the things you have taught him.

. . . *The End*



Pennsylvania Trappers Are Organized

By L. J. Kopp

An article designed to develop a better understanding of and familiarize people with the aims of the organized trappers in Pennsylvania.

PENNSYLVANIA was probably the first State to have a trappers association. It was established in 1935 and the first statewide meeting was held at Centre Hall on June 24, 1938.

Trappers like Ed Danko, Earl Ward, L. F. Smith and L. E. Close spearheaded the association which today is recognized as one of the best in the country.

Regrettably there have been many misinterpretations of the P.T.A. by misinformed persons. Among them is one that would set the association up as a group of professional trappers interested only in the business of trapping for profit. This is not so. The P.T.A. is composed of persons interested in the conservation of fur-bearing animals. Some of them are expert trappers. Others are part-time trappers from various walks of life such as carpenters, painters, farmers, mechanics, professional men, and and women too.

As in all other associations, not everybody agrees with the suggestions of the other, and so there occurs an occasional stone-throwing party. However this is the American way of doing things. If we did not disagree with each other occasionally the world would be a dull place in which to live and very little good would be accomplished.

Recommendations of the Trapper's Association do not represent the interests of a few. They represent the interests of many persons concerned with the State's fur resources. At the annual State-wide Trapper's Convention there are generally from two to three hundred trappers in attendance. They come from all parts of

the State and their recommendations are based on conditions as they exist on a State-wide basis.

At each annual meeting a President, Vice-President and a Secretary-Treasurer is elected for the following year. To insure better administration the State is divided into twelve districts and a Director is appointed in each. These officers comprise the Executive Committee of the association.

A booklet containing the text of the constitution and by-laws of the P.T.A. is available for members and others interested.

The Trapper's Association compares favorably with other organizations dedicated to conservation. It is recognized for what it represents, not by its size. It is strictly a non-profit organization and in 1948 was incorporated under the Non-Profit Corporation Laws of Pennsylvania.

. . . *The End*

Governor Fine Proclaims "Plant Pennsylvania Week"

ON September 10 Governor John S. Fine issued the following statement:

"Conservation of the natural resources of the Commonwealth should be of permanent concern to all the people of the State. In the conservation of our land the most important method is the planting of trees, shrubs and grasses. They serve a double purpose for they add to the attractiveness of our homes, factories, churches, schools and other public buildings, our hillsides and highways. They provide a natural beauty, make living and working more enjoyable for all and, of tremendous importance, they protect and conserve our watersheds.

"It is through the cooperation of all the people of the Commonwealth that such conservation measures can be brought about, to make and keep our land planted, productive, and beautiful. If each person will plant even one appropriate tree or shrub it will achieve much toward making our State more attractive.

"Therefore, I urge that the third week of September be designated and known permanently as 'PLANT PENNSYLVANIA WEEK,' and request that all the people, both private and public agencies, observe that week every year by planting trees, shrubs, and grasses in accordance with the need, whatever it may be, on public or private properties."

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HANDLIN' A GUN

By TOM FRYE



"ALWAYS BE CAREFUL" when handlin' o gun,
"DON'T POINT THE MUZZLE TOWARD ANYONE;"
"ALL GUNS ARE LOADED" so treat 'em that way,
"ALWAYS PLAY SAFE"--don't be sorry some day.

"KEEP GUN ON SAFE" 'til yau're ready ta shaot,
Yau can stumble and fall with a slip af the boot;
With hommer back or "off safe," gun is reody to kill
If touched by a twig, or o dog--and it will!

Before gaing over or under a fence
"BREAK YOUR GUN"--that's comman sense
To prevent shoating self, brather or dod,
Or maybe the best pal you ever hod.

"DON'T CLIMB A TREE WITH A LOADED GUN,"
"OF YOUR TARGET--BE SURE"--it's the right one;
"DON'T SHOOT AT FLAT SURFACE" of woter or land
And "KEEP YOUR GUN CLEAN" from dirt, snow ond sond.

"DON'T LEAVE YOUR GUN 'TIL YOU UNLOAD IT" first,
Ta do atherwise could be one of the warst
Things you cauld do, 'round car, camp ar hame,
"BE SURE YOU UNLOAD IT," be sure--then roam,

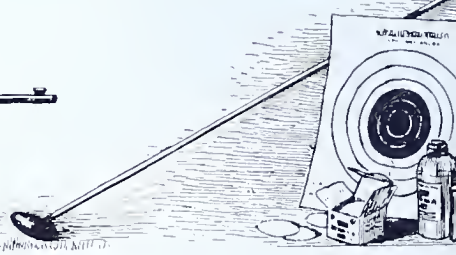
"DON'T MIX YOUR SHOTS WITH ALCOHOL,"
'Cause that con bring a long range call
From Gabriel, who'll frown and say
"Yau're through on earth, you've hod yaur day."

Mony peaple are shot and killed each year
Becouse same are careless and greedy, I fear;
Shooting as sport con be safe and fine
If you'll only be careful--take o little more time.

If you want to be safe and surely you do,
Practice this wisdam, thraugh and through;
And teach all others, fathers and sons,
Haw ta be careful when handlin' guns.

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TOM FRYE





PENNSYLVANIA

Game News

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SEPTEMBER 1951 SPECIAL ISSUE NO. 3



THE STORY BEHIND THE COVER

IF you have never watched the Black-crowned Night Heron standing in the water in the subdued light of dusk, vitally alert, body thrust low and forward, neck curved ready to strike at an unsuspecting fish with its long, heavy bill, you have missed a real thrill.

The experience is hypnotizing in a way because you are on edge every minute waiting for the thrust to come. Sometimes, despite the rapidity and fierceness with which it is made, our eager friend misses. But on the whole he scores enough hits to keep alive because the several large colonies along the Susquehanna and Delaware Rivers, and on the islands in those waterways, are proof sufficient of the birds angling and reproductive ability.

One large colony has been located on McCormick's Island in the Susquehanna River at the northern end of the Capital City for many years. Heron colonies are offensively filthy and have a disagreeable odor. Young in all stages of development can usually be seen clambering about the branches, using their necks, wings and bills in crawling from perch to perch. Quite often you will see them dead, hanging from some crotch, having fallen from the nest or slipped from a branch.

The Black-crown is a little larger than a crow, its white underparts and black back and topknot in beautiful contrast with its bright red or red-browneye.

Listen for its loud, barking QUA as it rises from the fishing grounds and flies over head after nightfall.

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Pennsylvania Game Commission

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

★

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SPECIAL ISSUE NO. 3

Our Wildlife Heritage

By Leo A. Luttringer, Jr.

★

Format by Hain Wolf

★

Historical Chronology by
Wilbur M. Cramer, Assistant
to Executive Director

★

Photographs by Game
Commission unless
otherwise indicated

★

Cover Kodachrome
Black-crowned Night Heron
by
Ralph Cady

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Foreword

Pennsylvania is blessed with an abundance of wildlife. Its fields and woodlands echo to the strident crow of the cock pheasant, the gobble of wild turkeys, and to the melodious call of the bobwhite; woodchucks pop from holes along old fence-rows, alert to any intruder; cottontail rabbits peep from tiny hideouts or romp at dusk along the cool grasses.

Our mountains resound to the drumming of the ruffed grouse; the chatter of the gray squirrel; the occasional cry of the bobcat, and the staccato hammering of the pileated woodpecker.

Deer abound in the open forests; black bears roam the rugged ridges and secluded ravines; and high on a ledge in a remote wilderness valley a raven screams its raucous challenge to the sky.

Waterfowl stop along our lakes and rivers to rest during their migrations; furbearing animals flourish in our marshes and farm ponds and along our streamsides; beautiful songbirds greet us in the morning with a cheerful medley from the tree tops and bushes; eagles and other birds of prey soar majestically overhead or thrill us with their gymnastics in search of food.

Truly, this variety and abundance of wild creatures is a wonderful God-given heritage—one which we cannot measure in dollars and cents. It can be valued only in terms of its beauty, its economy, or the pleasure and recreation it affords us. It can be protected and preserved for future generations only in the proportion to which we help safeguard it.





Our WILDLIFE HERITAGE



Photo by Hal H. Harrison

SCREECH OWLS



priceless

Pennsylvania has many natural resources. It is particularly outstanding because of its wildlife which is a priceless heritage—one that cannot be measured in dollars and cents. It is wonderful to have this abundance of Nature's children, but to keep them plentiful for everybody to enjoy now and preserve some for the future, is a real problem.

planning developing

The Pennsylvania Game Commission has the tremendous responsibility of planning, developing, and guiding a *sound* wildlife conservation program. The sportsmen pay the bill through their hunters' license fees and cooperate in many ways to help protect and increase wildlife locally. Hunters and trappers alone spend millions of dollars each year in Pennsylvania for guns, ammunition, dogs, and other essentials of the chase. Naturalists, photographers and bird lovers spend large sums for binoculars, cameras, etc.



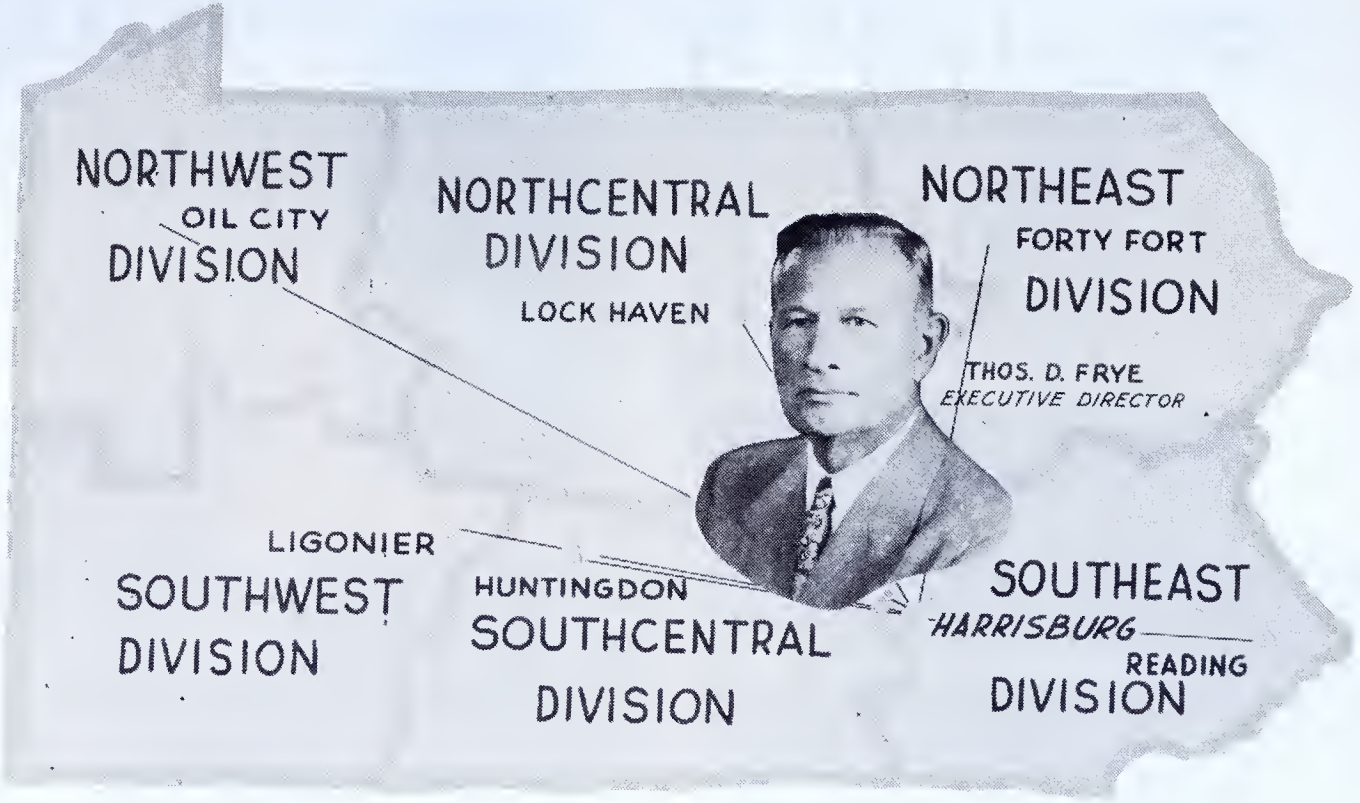
who



what

Who and what makes up the Game Commission and its program? The Commission consists of eight non-paid Members appointed by the Governor with the advice and consent of two-thirds of the Senate. By law they are required to be well informed on the subject of wildlife conservation and restoration. They receive no compensation other than official expenses, much of which is never accepted, but they spend considerable of their personal time, money and effort in behalf of wildlife. It is important for you to know them and about the responsibilities of these conservation-minded individuals who contribute so unselfishly to the cause.

how



The Commission appoints its own administrative head or Executive Director with the approval of the Governor, who is also the Chief Game Protector of the Commonwealth. Upon his shoulders rests the great responsibility of carrying out the policies and programs of the Commission. Although administered at Harrisburg, the work is not centralized there. It is subdivided into six field administrative areas called "Division."







The program of the Commission and its several elements is a large one. Of these land management is probably the most important. It is the bank and capital from which the present and future may draw interest.

The Commission owns and manages almost 900,000

900,000

acres of State Game Lands for the pleasure of everyone for all time. Most of these lands are in forested areas, combining hunting territory with scenic beauty, timber values and recreational enjoyment. Since they are Game Lands, food and cover are very important.

game food



Food-bearing nut trees are planted where they do not occur naturally. Among them we find the chestnut. Real efforts are made to bring back this once abundant game food. Where there is food there is wildlife.

Food-bearing shrubs and vines also are provided. When good ground cover is smothered by the thick canopy of leaves overhead, it is necessary to thin out certain areas so the sunlight can filter through.





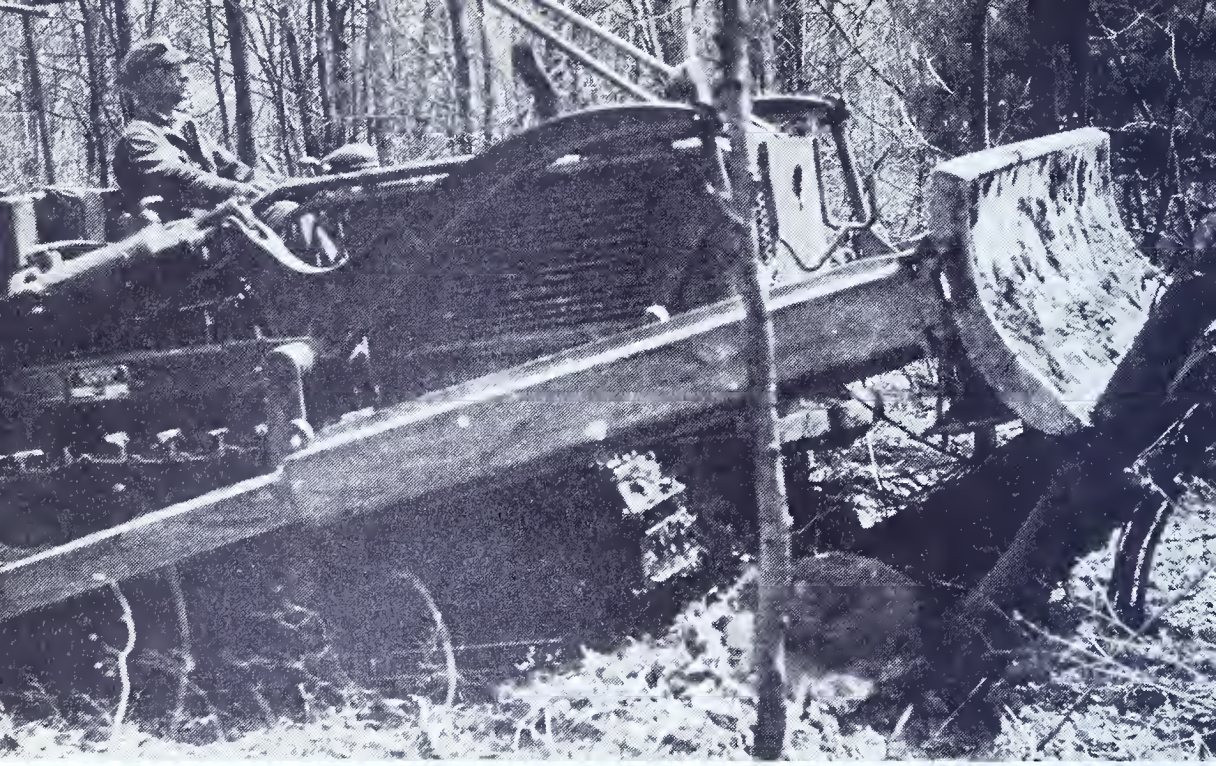
Sensible cutting often does as much good as proper planting and the resulting understory is readily eaten by various species of birds and animals.

Sometimes two objectives can be accomplished in one operation. Thinnings are made as pulp or chemical wood is harvested. In this way the Commission receives some cash return on the investment and wildlife benefits as a result of the undertaking. Den trees are left for cavity nesters such as raccoons, squirrels and other tree-inhabiting creatures.





If enough food does not grow naturally for wildlife, the Commission provides zig-zag food strips. They are planted to buckwheat and other seed mixtures. It takes a lot of chefs and a lot of waiters to set the table for wildlife but these outdoor cafeterias are quickly found and utilized by deer, wild turkeys, squirrels and other forest creatures.



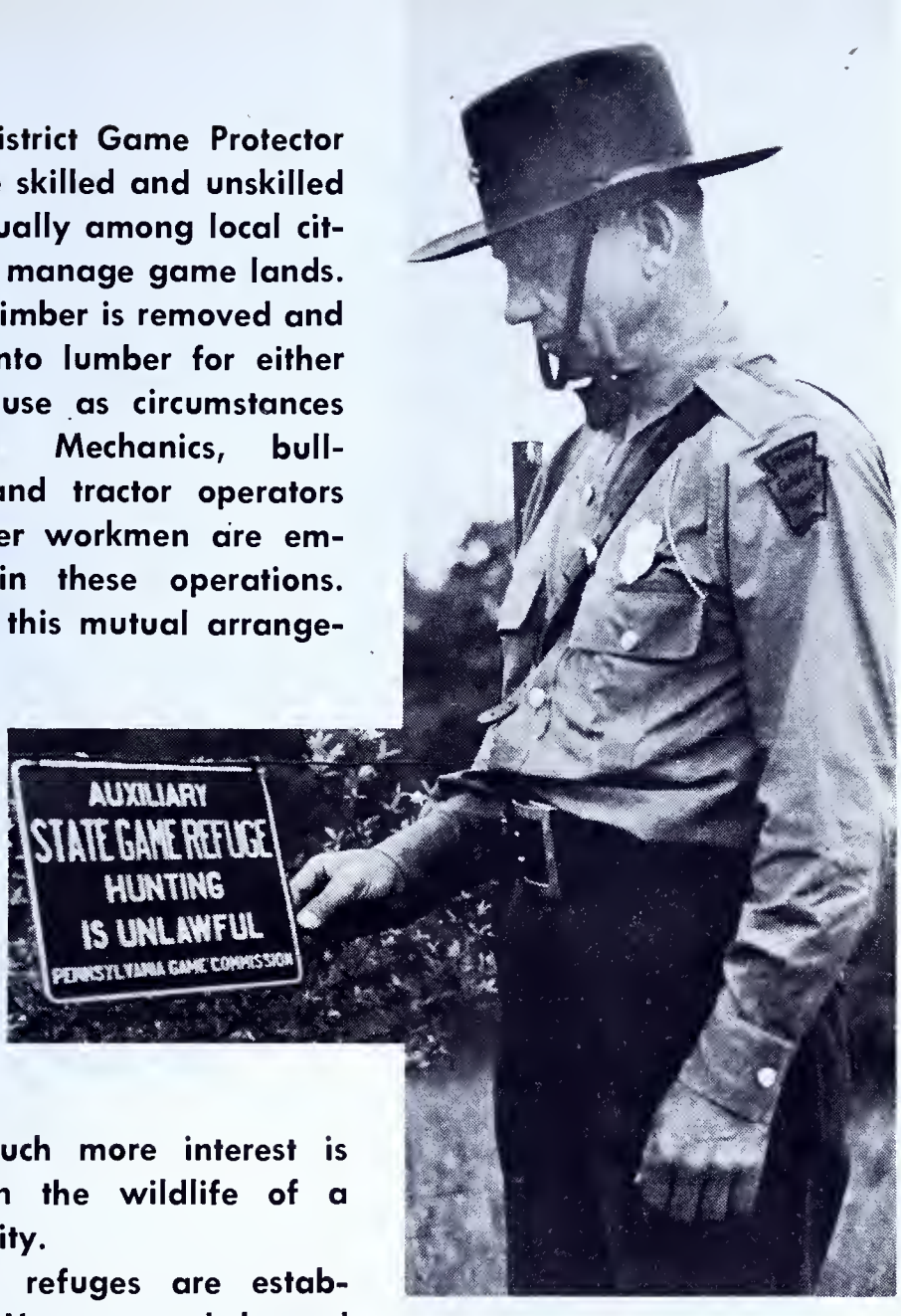


Bulldozers sometimes are used to level browse temporarily for deer. It also provides food and cover for snowshoe rabbits, grouse and wild turkeys.

BROWSE

Where high-bush huckleberry abounds in the eastern part of the State it is thinned out and transplanted in other sections to provide more game food.

The District Game Protector may hire skilled and unskilled labor usually among local citizens, to manage game lands. Mature timber is removed and sawed into lumber for either sale or use as circumstances warrant. Mechanics, bulldozers and tractor operators and other workmen are employed in these operations. Through this mutual arrangement much more interest is taken in the wildlife of a community.



Game refuges are established. Hunters and hunted both know the wire around them means "No Shooting Allowed in Here."

Refuges must be patrolled, boundary lines must be cut and marked, roads must be provided, and predators controlled, so that wildlife has every possible chance to survive and multiply.





$15,00
A S



Deer, which were almost exterminated at the turn of the century, were brought back through Pennsylvania's system of game lands and refuges. Today they are the Commonwealth's pride but also one of its biggest problems.

Assuming there are 750,000 deer, which is a fair estimate of the herd and they are worth



0,000
SET



twenty dollars apiece, the State has an asset of fifteen million dollars in this big game animal alone.

But deer have an even *bigger* value in the attraction they offer to many persons. Autoists see them in the fields in the evenings, or crossing the road; resort visitors encounter them when walking in the woods;



Photo by Bob Ford

$15,000,000 Asset (Cont'd)

they often come down to the stream where some angler is fishing.

Each fall, half a million hunters enjoy healthful outdoor recreation pursuing them, and venison may be found on the tables of many Keystone families, and in the homes of non-residents after returning from a successful hunt in our State. Hundreds of trophy-laden cars pass on parade through towns in big game territory.

But there is still *another* angle. At times there are too many deer. They become a nuisance to themselves and to farmers in deer country, and are frequently observed in cultivated areas. The herd started to exhaust its food supply by 1923 in some sections and seriously threatened crops and orchards.

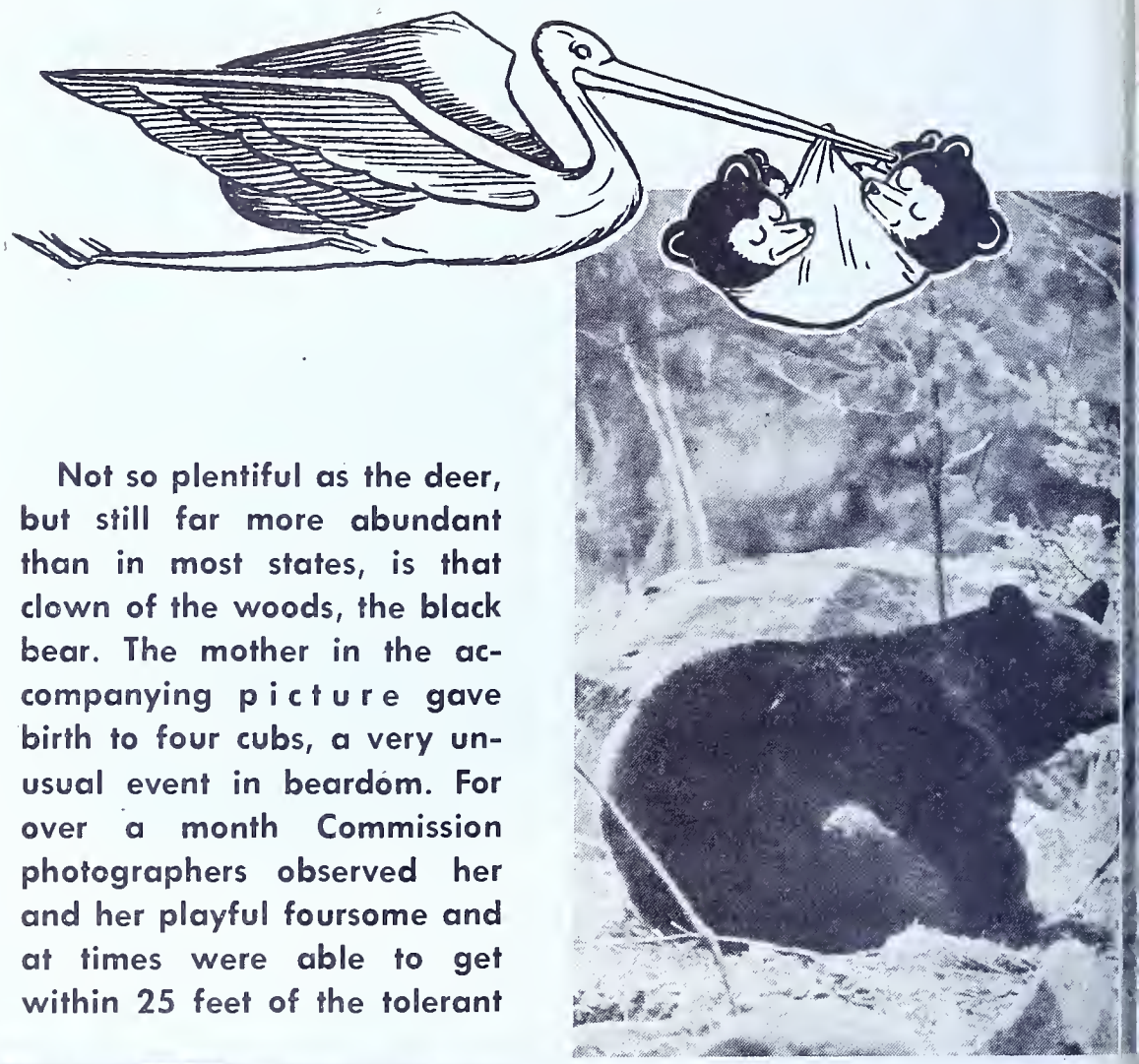
They over-browsed and over-grazed their range and the cupboard was bare. That is when the first antlerless seasons were declared. Now more than ever "doe seasons" are necessary to harvest the surplus for a strong and

healthy herd. Death at a hunter's hand is far more humane than starvation and disease.

Deer must be controlled constantly because they are their own worst enemies. Every spring many dead deer are found in the ravines and along the spring runs. A simple examination of the bone marrow determines the animal's condition. The reddish coloration denotes malnutrition. White marrow denotes a healthy animal.

Deer have no natural enemies in Pennsylvania except the wildcat and the fox. Wildcats occasionally kill adult deer, whereas foxes prey only upon fawns. Dogs, especially those running at large in packs during the winter months, kill many deer. Dog Law enforcement officers, game protectors and sportsmen do all in their power to control these outlaw killers.





Not so plentiful as the deer, but still far more abundant than in most states, is that clown of the woods, the black bear. The mother in the accompanying picture gave birth to four cubs, a very unusual event in beardom. For over a month Commission photographers observed her and her playful foursome and at times were able to get within 25 feet of the tolerant mother. The cubs are usually born in January during the mother bear's hibernation. They are naked and blind and weigh only about a pound at birth. They open their eyes at an age of about one month.

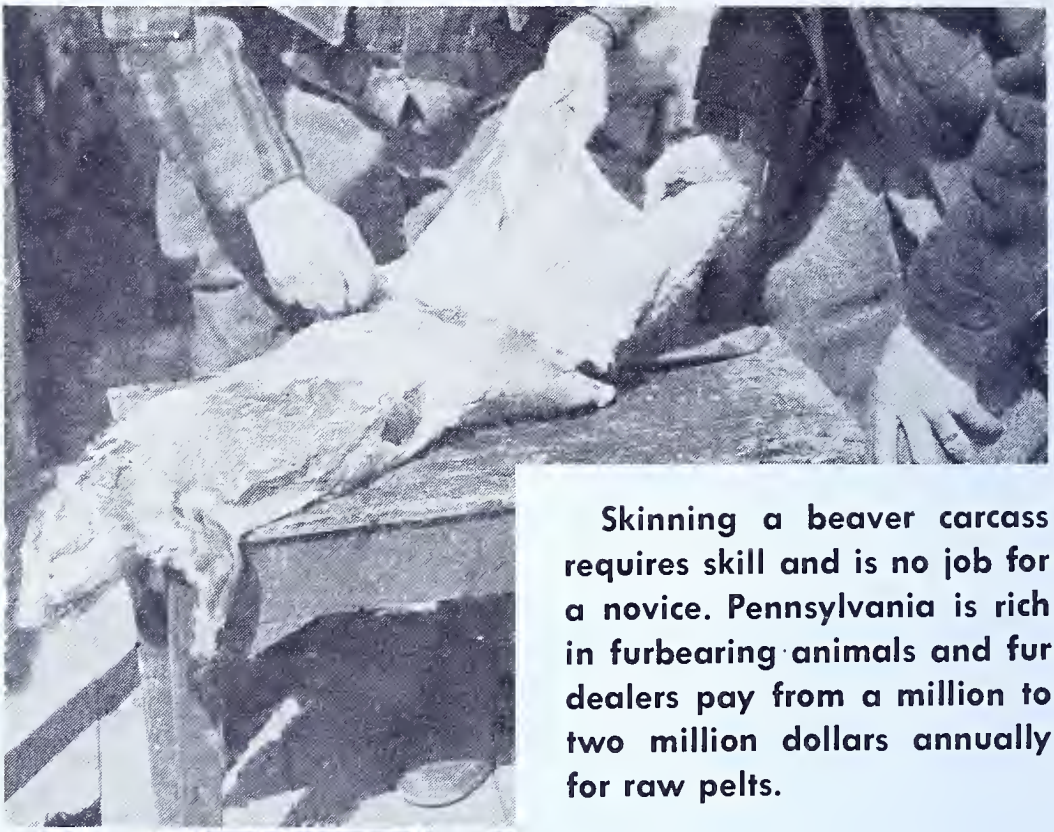


Black bears sometimes kill sheep and destroy beehives. Occasionally it is necessary to "live trap" a marauding bruin and remove it to a section where it can do little damage.

IT PAID OFF

Beavers, once extinct, are now fairly plentiful. They have furnished limited trapping since 1934. A few pairs of live animals received from Wisconsin and Canada were introduced between 1917 and 1923. Their skill at dam building is unexcelled and they have unusual strength in their forefeet which are used to carry the mud, sticks and even larger branches with which they build or repair their dams.

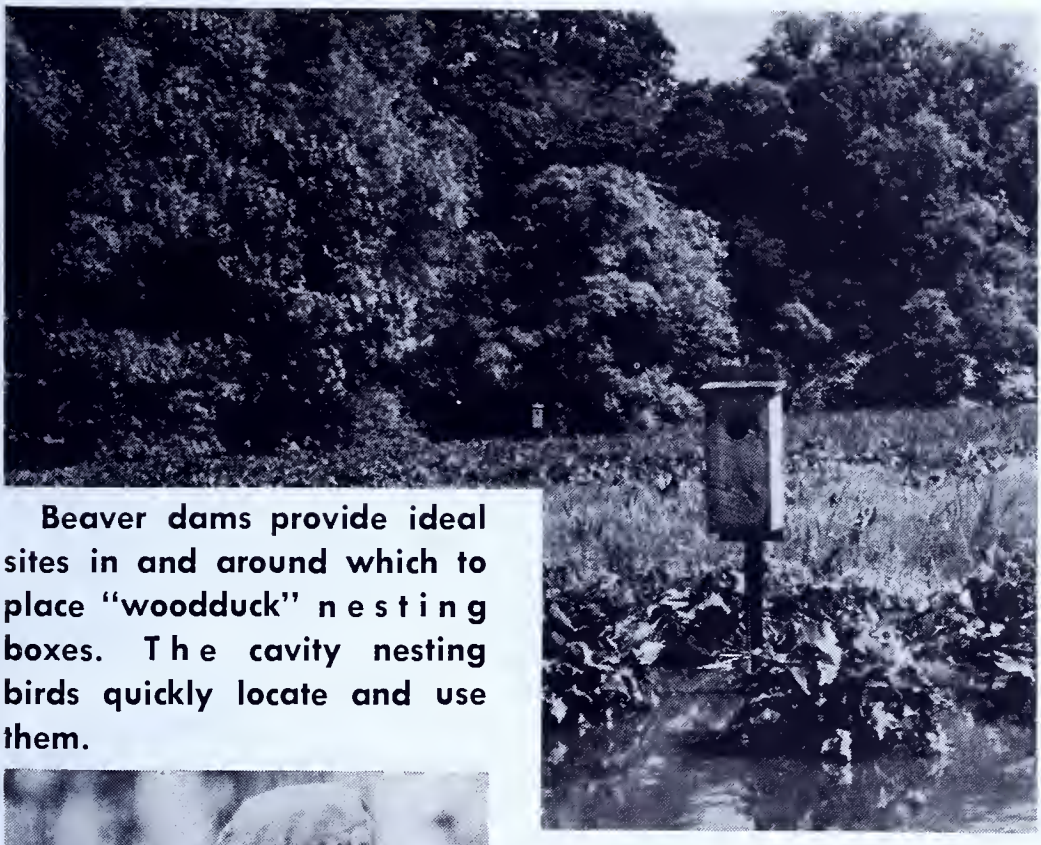




Skinning a beaver carcass requires skill and is no job for a novice. Pennsylvania is rich in furbearing animals and fur dealers pay from a million to two million dollars annually for raw pelts.



Sometimes, when their ponds flood roads, or when they become too numerous, they are live-trapped and removed to more suitable locations. As a rule they are caught easily and are not vicious if handled properly. Live traps seldom if ever injure the animal. Unlike bear cubs, baby beavers are born with their eyes open and their teeth fully formed.



Beaver dams provide ideal sites in and around which to place "woodduck" nesting boxes. The cavity nesting birds quickly locate and use them.



Large beaver pelts may bring up to seventy-five dollars and trappers compete enthusiastically for them. It usually takes a lot of hard work and time before a trapper's efforts spell success.

CAGY



The wild turkey, once very plentiful, then alarmingly scarce, is coming back strongly. Its bronzed beauty is seen by few hunters because it is a tough bird to find and take.

Liberal stocking in carefully selected north-central areas is returning the turkey to regions where it has been missing for many years. It is one of the most colorful inhabitants of our forests but shy and difficult to hunt.

State BIRD

The magnificent ruffed grouse is Pennsylvania's State Game Bird. The thrill you experience as one "explodes" at your feet is second only to that which you receive when you flush a female from her nest of freshly hatched chicks and feast your eyes upon the little fluffy youngsters taking their first look at their forest home.



PYMATUNING



One of the most interesting game refuges in the State is the Pymatuning Waterfowl Sanctuary near Linesville, Crawford County. Here 3400 acres are set aside for feeding and nesting of migratory ducks, geese and shorebirds. Thousands of people visit the refuge annually from all over the United States.

There's something about the sight of waterfowl that thrills everyone, hunter or non-hunter, and here the birds that roam the world's first airlines are seen at their best. The puddle ducks, the divers, the various geese, swan and other water-haunting birds are here. The area was set aside as a sanctuary in 1935 by the Commission.

One of the Pymatuning sights that amazes and charms visitors is the spectacle of ducks and fish competing for bread thrown to them at the spillway located near the Commission's Free Museum. The fish, principally carp, are removed occasionally by the

Fish Commission and restocked where public fishing is allowed.

A naturalist-lecturer is present from May through September to help bird students, school children and adult visitors learn to identify and understand waterfowl.

but store water for emergencies.

On some Game Lands picturesque natural lakes provide recreation for outdoor-loving persons — recreation in the form of boating, fishing for old and young alike, and swimming.



The Pymatuning is only one link in the chain of waterfowl restoration efforts. Impoundments are made on State Game Lands wherever circumstances and natural conditions warrant. These impoundments not only provide nesting and resting places for waterfowl

Providing dams and ponds is not wholly the responsibility of the Game Commission. Sportsmen should build them on their club properties for fishing, boating, and for use as reservoirs. Many of them do, at considerable personal time, effort and expense.

FOOD and COVER

Game Lands are not only managed for big game, they are also managed for small game. Abandoned farms are reclaimed and modern agricultural practices of all kinds are undertaken. Eventually this cornfield which has been planted on the contour to prevent erosion, pays off in good crop yields. Sportsmen frequently help employes of the Game Commission to harvest the golden crop, which is used to feed squirrels and turkeys in winter. Other wildlife, especially ringneck pheasants, find food and cover within its standing rows.





MODERN PRACTICES

These pine trees planted five years ago show how attractive and valuable uncultivated hillsides can be made.

Old orchards are pruned and once neglected trees eventually flower and fruit again to the delight of the bluebird, that good old harbinger of spring.

Sportsmen and farmers are encouraged to apply these modern practices on their club grounds and on their farms. The Commission furnishes expert advice on these subjects. Contour farming is encouraged.





MODERN PRACTICES continued:

Emphasis is placed on the many values of the multiflora rose hedgerow. Pheasants and other wild birds and animals find refuge and often build homes and raise their young beneath its protective branches.

Proper crop rotation includes clovers which can be plowed under to make "green manure."

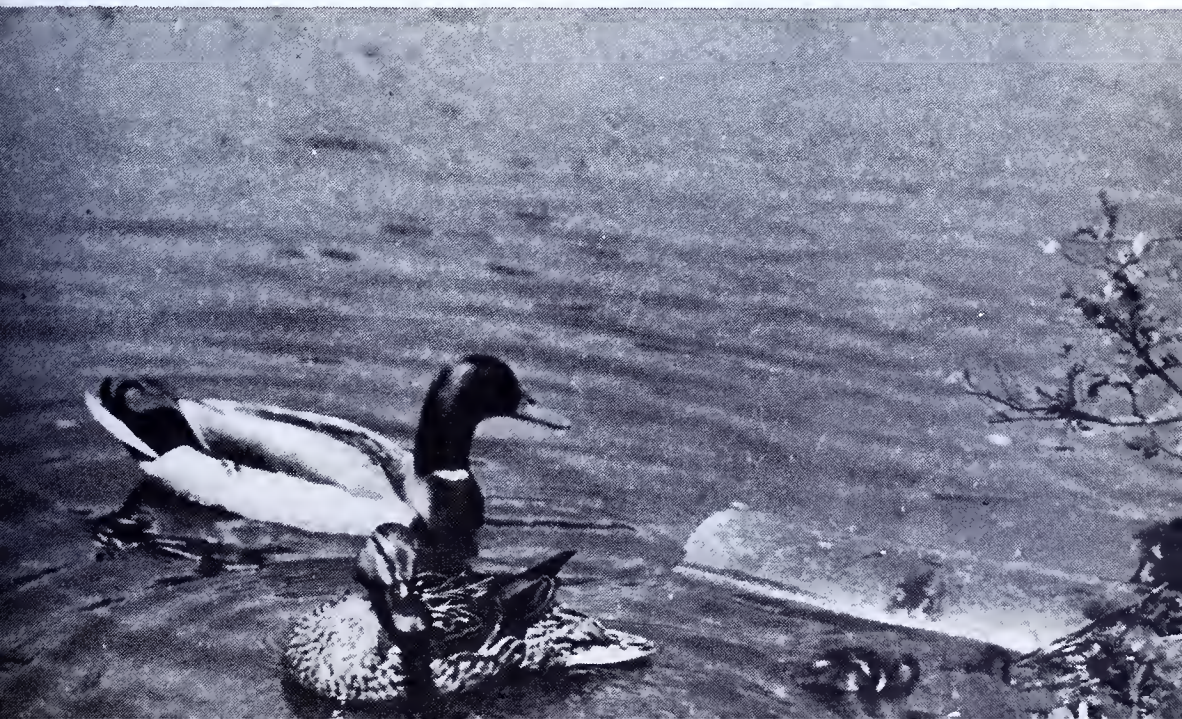
The development of farm





ponds is encouraged. They not only provide emergency water for farm uses, places for ducks to feed, rest and nest and recreation for the family, but the area around the margin of those ponds, when fenced and planted to grass mixtures and shrubs, is usually a haven for game, songbirds, and other wildlife species.

Mallards and their young are a common sight on most farm ponds, and spring peepers and frogs enliven the surrounding marsh areas.







WATER

Here the muskrat makes his home and where these prize furbearers are plentiful the farm lad reaps a tidy sum in pocket money by running a trapline along with his early morning chores before school.

The muskrat is a valuable by-product of streams and farm marsh areas and conditions should be improved for him.

Marsh areas also attract the mink whose fur is more highly prized than that of the muskrat.





or Woodlots







Unprotected stream banks which rob farms of fertile soil should be planted with basket willow or silky dogwood to help bind the soil.

Planted gullies repair the damage done by erosion, prevent additional soil losses and provide homes for farm game and many beneficial songbirds.

Most farm woodlots may be improved by fencing and harvesting mature and inferior trees through selective cutting. Woodlots treated in this manner produce more timber and provide openings and cover for squirrels, woodpeckers and other cavity nesters.

MUTUAL INTEREST



A farm plan based on proper land use provides a conservation program which fits the farming to the land and designates the best use for each acre. More farmers each day recognize the benefits derived by applying soil conservation practices.

When we understand our mutual problems and desires; when the farmer, the sportsman and the Commission realize they must all work together for the benefit of all, then and only then will they reap the fruits of their joint efforts.





and

operation



When autumn comes many farmers resent the approaching invasion of careless hunters upon their lands, and one cannot blame them for taking steps to protect their property, their livestock, yes even their lives. Carelessness and vandalism help increase the number of "No Trespass" signs.

In 1936, in an attempt to reduce the number of "No Hunting" signs, the Game Commission established a Cooperative Farm-Game Program. It provides the good sportsmen with more hunting territory and furnishes protection to cooperating farmers from careless hunters.

Always ask permission to hunt even if the property you wish to gun on is not posted. Remember they are still privately-owned lands and the owner is only extending a privilege to you at no cost.

Close all gates and carry your guns empty until a safe distance from occupied buildings.



Do not hunt in the Safety Zones and take other safety precautions and you will leave a good impression with the farmer and be welcome to return at a later date. You can have a happy day afield, and the landowner can pursue his chores knowing that you will be careful of his property. The





pleasure of nearly a million hunters is due in large part to the kindness and tolerance of the landowner. Show your gratitude by deporting yourself like gentlemen and respecting the rights of your host so that he can carry on his work with a sense of security.

When returning from a successful day afield share some of that game with your kind and generous host.



The cock bird in all his stateliness and colorful garb is a sight to behold as he calmly leaves the transfer crate for the open fields and freedom.





Many small retreat refuges where game can find sanctuary when closely pursued, or where it can nest and produce its young unmolested are established on Farm-Game Cooperative Projects. Some of these refuges abound in wildlife foods, planted by sympathetic landowners.

One way of preserving our wildlife heritage is to replace what we harvest. The Commission restocks those species which are exposed to heavy hunting pressure. It has four State Game Farms—two for raising ringneck pheasants, one for bobwhite quail, and one for wild turkeys.

Pheasant eggs are collected in the laying fields and placed in incubators. In 24 days they hatch and are then transferred to the brooder houses.

Trayful after trayful of the downy youngsters are handled daily. When a hatch comes off the whole operation has an Easter season outlook.

Many sportsmen's clubs raise thousands of ringnecks from day-old chicks furnished by the Game Commission. So do many farm-game cooperators. Nearly 175,000 additional pheasants are produced and released every year through these joint endeavors.

The demand for the pheasant far exceeds the annual supply and the production of these birds will be increased in an effort to meet that demand. One thing is certain, the bird with the long tail has reduced the hunting pressure on grouse and the disappearing quail.

SUPPLY FOR DEMAND



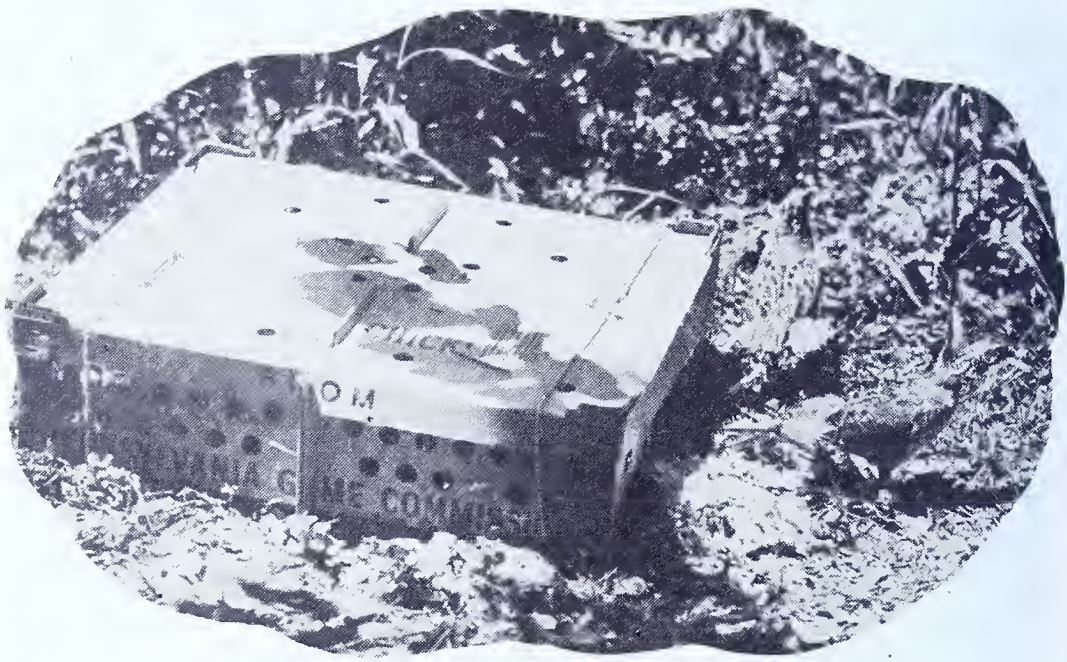
QUAIL

Fewer fencerows, clean farming and changes in agricultural practices are reducing the quail population far more than guns or predators.

The Commission stocks about ten thousand bobwhites a year but the birds will not live and reproduce where they can't nest, hide and feed.

TURKEY

When the first birds were raised at the Commission's Wild Turkey Farm, they proved entirely too tame compared with the old native stock, and steps were immediately taken to remedy this condition by enclosing small areas in typical turkey habitat with wire. Farmreared hens with flight feathers removed



The wild turkey, which became very scarce due to increased hunting pressure, has been brought back in goodly numbers and its range greatly extended by unique propagation methods.

were placed in the enclosures in early spring prior to the mating season. They attracted wild toms which flew into the pens from the surrounding forest and mated with the captive hens.

The first clutch of eggs laid by the hens was gathered and transferred to the farm for in-

cubation; the second clutch was permitted to remain and hatch in the wild. By the time the youngsters learned to fly, the mother's flight feathers had grown so that she and the poults could fly over the wire and into Nature's great outdoors. The eggs from these matings produced a wilder strain until today it is a problem to trap birds on the present turkey farm near Barbours, Lycoming County, for release in the wild.



Turkey eggs hatch in 28 days. As youngsters they are even livelier and more alert than young ringnecks. The wild strain is immediately evident and when they mature it will take a clever hunter to outwit them. From the incubator they are moved into brooder houses, thence to rearing pens and finally to suitable wild environment where they quickly adapt themselves and begin natural reproduction. Some are released on propagating areas established by the Commission to protect them during the nesting season.

Cottontail



The lowly cottontail plays a very important role among small game hunters and dog lovers. The music of the rabbit hounds resounds from our hills and valleys not only during the open season but during the dog training period prescribed by law.

Having spent hundreds of thousands of dollars through the years to purchase western cottontails for stocking pur-





poses without being certain of the supply or the results, the Commission developed a live trapping and transfer program in boroughs, parks, institutional grounds and other areas closed to hunting. Here bunnies are live trapped and later released in areas open to public hunting.

Rabbit farms are also being established in limited numbers throughout the State. By agreement with landowners their farms are closed to hunting, habitat is improved and the surplus animals are trapped each year for release in open hunting territory within the same township. This program, while comparatively new, is proving both effective and very popular with both farmers and sportsmen.

GOODWILL AMBASSADOR



The link between the hunter, the farmer and the Commission is the Game Protector. He is the public relations or goodwill ambassador. You will find him everywhere. He helps sportsmen's clubs to trap rabbits where they are too numerous, where they are causing damage or where no hunting is allowed, and helps to distribute them in public hunting areas.

Tens of thousands of bunnies are released in depleted coverts every year through this program.

The Varying Hare or Snowshoe Rabbit furnishes a sport all of its own in Pennsylvania's northern counties. Unlike cottontails, this species does not reproduce rapidly



and it may be hunted only during a short open season, usually about the last week in December.

The Game Protector is a friend of the law-abiding sportsman but relentless in his pursuit of the violator. He checks deer and bear hunters, their trophies and their credentials during big game season. Numerous Deputy Game Protectors assist him on these occasions and work many hours until the season is over.

He likes to see fine trophies and shares the hunters' enthusiasm when they are bagged.





On the other hand he deplores wantonness and his blood boils when he finds cubs shot by either careless or ignorant gunners.

Car checking stations are sometimes set up by Game Protectors and their deputies to obtain data on game killed, look for loaded guns in cars and caution hunters not to be careless with firearms.





When they become too numerous predatory animals must be controlled so the Commission pays a bounty on the worst offenders. The nose of the pelt is split to indicate that the reward has been paid. The bird carcasses are destroyed.

as the TWIG is bent

The Game Protector is a great friend of the youngsters. He visits many schools and camps to teach juveniles about wildlife and its habits, safety on the rifle range and how to handle firearms properly. A Junior Conservation Camp is conducted every year by the Pennsylvania Federation of Sportsmen's Clubs. The camp offers an opportunity to a limited number of boys to learn more about the conservation of our natural resources.

Game protectors attend sportsmen's gatherings such as picnics, promote good public relations, good conservation practices and safe gun handling all of the time. They are especially interested in the youth upon whose shoulders rests the future preservation of our natural heritage.





If you have wondered how and where the Game Protector gets the training for the many trades he follows you will have to stop in at our Conservation School located near Brockway, Jefferson County, and get acquainted. The Game Commission established the first such institution of its kind in the United States.

All the students' time is not spent in the classrooms. They study nature outdoors with their instructors, and acquire field training under the guidance of experienced Game Protectors.

The routine is often broken by interludes such as this when they are visited by curious children of the forest—



children they are pledged to protect.

Research plays an important part in the Commission's program. Without it, little improvement would be made and much less would be known about the creatures which make up our wildlife heritage. What do they eat, how far do they range, how much freezing weather can they stand, what are the effects of predators and hunting pressure upon them?

No intelligent farmer would try to raise livestock or poultry without knowing what food was best, what shelter was best and what diseases he should guard against. Wildlife is a crop like farm animals.

Without *public* support all conservation efforts would fail. That is why the Commission carries on public relations and conservation education programs constantly, using every available tool at its disposal to make our citizens wildlife conscious.



Only after conservation becomes deeply embedded in the lives of every man, woman and child can we truly say we are fully safeguarding our wildlife heritage.

One of the best ways to accomplish this is to train teachers in conservation education using outdoor laboratories where they can learn firsthand about soil, water, forests, fish and wildlife. More workshops like the Conservation Laboratory at State College are needed.



We MUST and SHOULD



We must g u a r d against floods, because they take away rich topsoil and many wild creatures a r e m a d e homeless or even drowned in the turbulent waters.



We must prevent forest fires by putting out cigarette butts and campfires.



We should be careful when mowing so that pheasants, quail and other small game will not become ghastly prey to the destructive blades.



We should be careful when plowing lest we overturn and destroy nests full of eggs; we *must* give wildlife a break on the highway. Our highways are strewn ribbons of flattened wildlife — won't you help prevent this massacre?



We must be careful when burning fields so we don't destroy wildlife.



We want to see our wildlife alive, not dead from causes we can prevent; we want to enjoy it in the fields, in the woods and mountains, along our streams, in the trees and bushes near our gardens, and along our fencerows. We want to cherish, protect and perpetuate it so we can pass on this wonderful God-given heritage to the generations which follow.



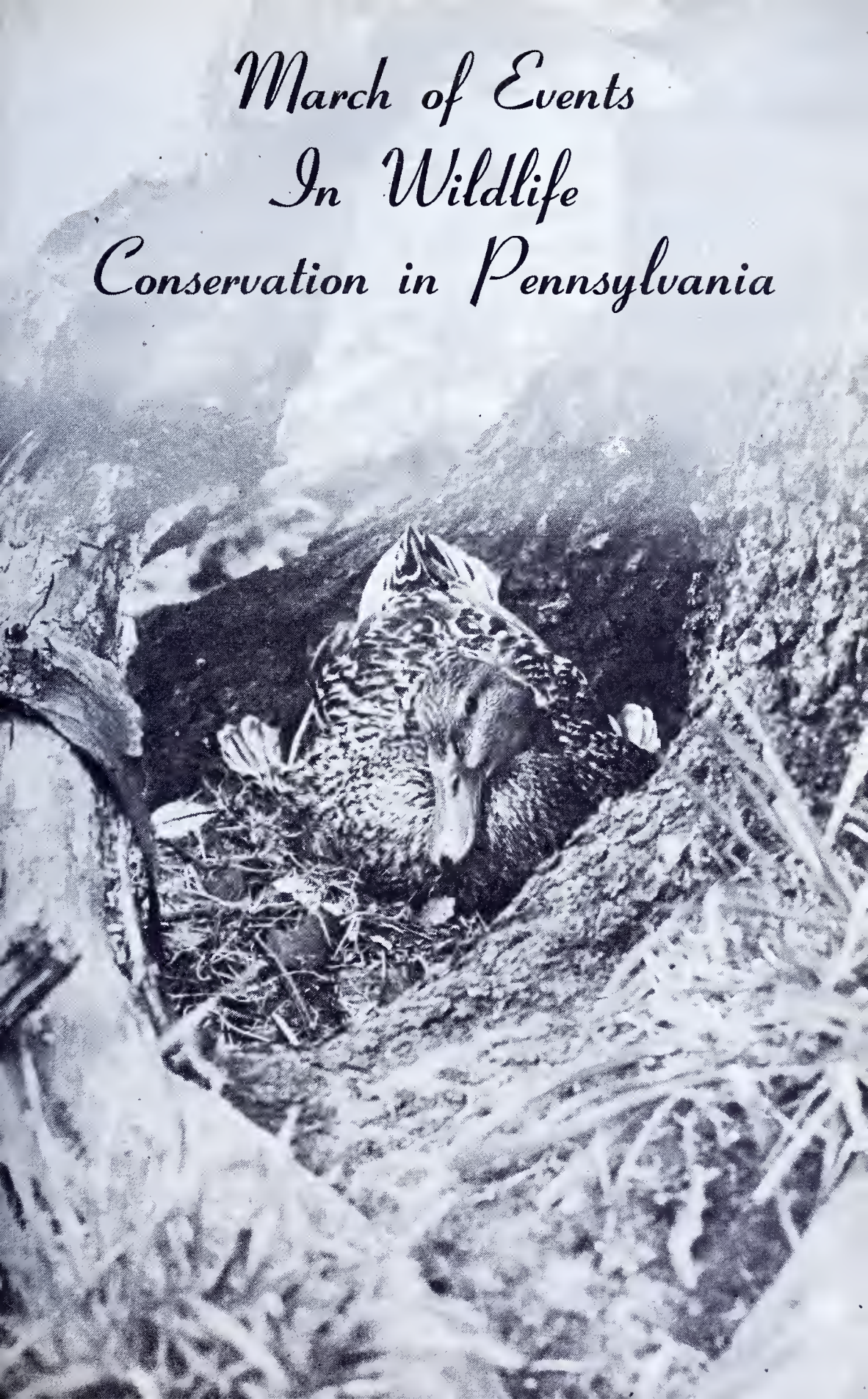
This is the stupendous job which your Game Commission does that our wildlife can exist and you can enjoy it.

Cooperate with and help your Game Protector. He is your friend and the guardian of Nature's children — o u r wildlife.



Be proud to say "I know our Game Protector."

March of Events In Wildlife Conservation in Pennsylvania



March of Events in Wildlife Conservation in Pennsylvania

1643—Swedes established the first permanent settlement within the present limits of Pennsylvania and in 1643 fixed their capital at Tinicum, Bucks County.

1681—March 4—Charter granted by King Charles II of England to William Penn to found a colony in new world, which later became known as Penns Woods or Pennsylvania.

1682—October 29—Penn landed in Pennsylvania at Chester.

1682—December 7—The Great Law was enacted. This code of laws became the fundamental basis of the government.

1683—Hunting permitted on all lands under William Penn's Charter.

1683—First bounty offered on wolves—10 and 15 shillings.

1701—October 28—Charter of Privileges was adopted—the basic law of the province until 1776.

1721—August 26—Pennsylvania's first Game Law enacted by Sir William Keith—Governor of the Province. It protected deer only—January 1 to July 1—Fine 20 shillings.

1730—Pennsylvania rifle developed by John Doll, in York—Strutzel, Lefevre and others in Lancaster, York and Lebanon Counties—erroneously called "The Kentucky Rifle."

1749—Squirrels—red and gray—were classed as predators, and bounty placed on them at rate of three pence a head.

1776—July 4—The province declared its independence of England.

1776—September 28—Adoption of the first Pennsylvania Constitution.

1776-1790—Pennsylvania was governed by a Supreme Executive Council.

1790—Revision of the State Constitution and its further development.

1790-1799—Thomas Mifflin was elected the first Governor of the Commonwealth of Pennsylvania.

1790-1800—Philadelphia was the capital of the United States.

1850-1885—Venison and other game was placed on free lunch counters of better saloons in Pittsburgh and Philadelphia.

1867—Last native elk killed in Pennsylvania about this time.

1869—Blinds first prohibited for taking upland game, and baiting, trapping or snaring of game birds was forbidden.

1870—Mastodon remains found in Port Kennedy Cave near Valley Forge and in Huntingdon County near Saltillo.

1873—First comprehensive Wildlife Act passed.

1873—Dogs first barred from running deer and elk.

1873—Unlawful to use ferrets in hunting game.

1875—Act passed prohibiting killing or disturbing passenger pigeons on roosts or nesting grounds—nonresident required to pay $50.00 for license to trap or net these birds.

1878—Sunday game hunting first prohibited.
Unlawful to kill wild ducks and geese with a swivel or punt gun.

1883—Removal of protection from English sparrow.

1885—"Scalp Act" passed, which enlarged bounty list, by adding weasels, hawks, and all but three species of owls.

1887—"Scalp Act" repealed because of frauds and useless slaughter of hawks and owls—180,000 killed in 2-year period.

1889—Enactment of the original law protecting song and insectivorous birds.

1890—Pennsylvania State Sportsmen's Association formed at Corry.

1894—"Bird Day" first observed in public schools at Oil City.

1895—Act creating the Board of Game Commissioners.

1896—First Game Commissioners appointed (6)—to begin service November 17.

1896—November 17 to July 7, 1898—Dr. B. H. Warren, of West Chester, served as first Secretary of Game Commission.

1897—First extradition from another State (New Jersey) made for a Game Law violation.

1897—Night hunting of ruffed grouse first banned.

1897—First appropriation authorized by Legislature for game administration (postage only) $800.00 for two years.

1897—Salt licks for killing deer and hunting them with deer hounds first forbidden.

1897—Sale of game birds killed in Pennsylvania made illegal; spring shooting of wild ducks prohibited.

1898—July 8—to his death August 10, 1919, Dr. Joseph Kalbfus, of Harrisburg, served as the second Secretary of Game Commission.

1901—Nonresident Hunter's License first established—fee $10.00.

1903—Passage of the law protecting beavers.

1905—The first Game Refuge Law.

1905—Pennsylvania was the first State to protect black bears.

1905—Buckshot banned for deer hunting.

1906—In this year 14 Game Protectors were shot at; 7 were hit; 3 were killed; 3 seriously wounded; 1 slightly injured; 1 citizen killed while helping Game Commission.

1906—Deer first stocked (50 from Michigan).

1907—The first Pennsylvania Buck Law was passed. Under the Buck Law of 1907, does were given absolute protection.

1907—Passage of the law prohibiting the use of automatic guns in hunting game. (Pennsylvania was the first State to bar these guns).

1907—Night hunting prohibited for all protected game birds.

1909—Passage of the law prohibiting aliens from owning guns in Pennsylvania.

1909—Bucks declared legal with "horns visible above the hair."

1909—Use of Wild Turkey call forbidden until 1937.

1911—The use of steel traps in taking bears was prohibited.

1913—April 17—Resident Hunter's License Law enacted. (Fee—$1.00)

1913—Bucks declared legal with antlers two inches above the hair.

1913—The first revised effective Bounty Law was passed.

1913-1923—Hunting license tags made of Fabrikoid.

1915—Ringneck pheasants first stocked in large numbers in Pennsylvania.

1915—The system of paying bounty was changed to that of the present method of handling all claims through the Game Commission at Harrisburg.

1915—Passage of the law prohibiting aliens from owning dogs in Pennsylvania.

1915—The use of pitfalls and pens in taking bears was prohibited.

1915—June—First two years' accumulation of money in Hunter's License Fund made available to Commission—$282,981.56.

1917—The Auxiliary Game Refuge Law was passed.

1917—Unlawful to shoot game of any kind from an automobile.

1917—The first camp limit for deer was established.

1917—July 11—Act was passed amending original law establishing a Game Fund by making all monies available to Game Commission as soon as paid into State Treasury, instead of by specific appropriation every two years. This amendment also included all balances in the Game Fund at this time.

1917—Night hunting of all game animals, excepting raccoons, forbidden.

1917—Beavers first stocked in Pennsylvania, a pair from Wisconsin.

1919—August 10—Dr. Joseph Kalbfus, Executive Secretary, and "Woody" Kelly, Field Superintendent of Game Refuges, were killed in an automobile accident at a railroad crossing in Warren County when their car was struck by a train.

1919—The Legislature passed a law authorizing the Game Commission to purchase lands to be known as State Game Lands, and to be used for game refuges and public hunting grounds.

1919—First State Game Lands purchased (No. 25—Elk County).

1920—First Field Conference of all officers excepting Refuge Keepers was held at Harrisburg in August.

1921—Penalty provided for shooting a person in mistake for wild game.

1921—Bucks declared legal with antlers four inches above the top of the skull.

1923—All Game Laws were codified, and since then they have been known as "The Game Law of Pennsylvania." (Approved May 24, 1923, P. L. 359). (License fee increased to $1.25).

1923—Landowners given right to kill deer for damage to crops.

1923—December 4, largest bear on record killed near Milford, Pike County. Weight 633 lbs.—hog-dressed 538 lbs.—total length 9 feet.

1923—Herons put on list of protected birds. Previously protected by Federal Law only.

1923—Second School of Instruction and Field Conference for all field officers of the Commission was held tat Crystal Springs Club in Clearfield County in August.

1923—The first Special Doe License Law was passed—fee $5.00. (The act of 1923 also was the first law making it illegal to kill bucks unless they had two or more points to one antler. But it provided that a deer with an antler six or more inches long without points, measuring from top of skull, shall be considered legal).

1923—Game Commission given authority to establish antlerless deer season.

1923—The first deer-proof fence law was enacted.

1923—The first open season on elk.

1923—Fur Dealer's License created.

1923—Raven put on protected list.

1923—Hen pheasants were first protected.

1923—Nonresident Hunter's License fee increased from $10.00 to $15.00.

1923—Game Commission first given authority to revoke hunters' licenses.

1924—Third Special Conference and School of Instruction for all field employes of the Commission was held at Conneaut Lake, August 4-5-6.

1924—First written examinations given to select men for position of Game Protector.

1924—Hunting license tags made of aluminum.

1925—The Fourth Conference and School of Instruction for all field employes of the Commission was held at the Park Hotel, Williamsport, July 13-14-15.

1925—First law permitting farmers to retain deer for food when killed because of damage to crops.

1925-1941—Hunting license tags made of tin plate.

1925—Game Commission first given discretionary power to fix seasons and bag limits.

1925—Cost of Antlerless Deer Permit reduced from $5.00 to $2.00.

1925—Bear cubs were first protected.

1925—Deer Law amended to declare a buck illegal unless it has two or more points to one antler.

1927—The Fifth Conference and School of Instruction was held at the Capitol in Harrisburg October 5-6-7.

1927—Deer, antlerless, killed by special agents of Game Commission in two Counties because of overabundance—Cumberland 139; Lycoming 46 —total 185.

1927—Resident hunter's license fee increased to $2.00, with 75 cents from fee earmarked for land purchase and management program.

1928—Propagation of game first undertaken by Game Commission by having refuge keepers raise ringneck pheasants from eggs supplied them.

1928—First State-wide season on antlerless deer, except 16 counties closed. (Minimum weight 50 lbs. dressed.)

1929—July—First Monthly Service Bulletin of Game Commission published in mimeographed form.

1929—August 24—Jordan State Game, near Harlansburg, Lawrence County, dedicated for propagation of ringneck pheasants. Abandoned in 1946—operations transferred to Western Game Farm near Cambridge Springs, Crawford County.

1929—September 21—Eastern Game Farm, near Schwenksville, Montgomery County, dedicated for propagation of quail and ringneck pheasants.

1929—Field Officers of Commission first uniformed.

1929—Game lawfully killed was made subject of larceny.

1929—Bow and arrow legalized for hunting game.

1929—Responsibility for the issuance of hunting license placed in the Department of Revenue.

1929—Department of Revenue given power to revoke hunters' licenses upon recommendation of Game Commission.

1930—April—First Game News published in mimeographed form.

1930—The Sixth Field Conference and School of Instruction for all field officers in uniform was held at Mt. Gretna in the early fall.

1930—Juniata Wild Turkey Farm operations started near Honey Grove.



Abandoned in 1945—operations transferred to State Wild Turkey Farm, Barbours, Lycoming County.

1931—Elk given protection. (No open season thereafter.)

1931—Present hunting license year established—September 1 to August 31.

1931—Ruffed grouse made the "State Game Bird."

1931—Quail propagation first started at Eastern Game Farm.

1931—First open season on both buck and doe deer, with spike bucks only protected. Kill—24,796 bucks; 70,255 antlerless deer—total 95,051.

1932—The first in-service training classes were held at the Training School between July 31 and September 11—six one-week classes, with a total of 139 field officers attending.

1932—April—First Game News printed—circulation—5,000.

1933-1934—C.W.A., C.C.C. and W.P.A. spent $4,000,000 on expansion of Game Lands.

1933—The raccoon was declared a game animal.

1933—Inauguration of program giving day-old pheasant chicks to Sportsmen's Clubs.

1934—August 1—Lycoming Game Farm near Montoursville, Lycoming County, dedicated for propagation of ringneck pheasants.

1934—The first open trapping season on beaver.

1934—Ringneck pheasants first stocked in large numbers.

1935—Use of dogs prohibited in hunting and chasing bears.

1935—First migratory waterfowl refuge in State established at the Pymatuning Dam.

1936—Permanent Conservation Training School established.

1936—Cooperative Farm-Game Program started by regulation of the Commission, based on Auxiliary Refuge Law.

1936—First student class enrolled in Training School—believed to be the first group of its kind in the world—July 2-February 28, 1937—with 27 men graduating.

1936—Sales of timber from State Game Lands first authorized.

1937—Second student class enrolled in Training School—June 20-February 28, 1938—with 25 Pennsylvania men and 2 men from Conservation Department of North Carolina completing the course.

1937—October 1—Bounty removed from wildcat.
Weasel bounty reduced to 50c.
Gray fox bounty continued at $4.00.
Goshawk bounty reduced from $5.00 to $2.00 for adults, and $1.00 authorized for fledglings, for birds killed between November 1 and May 31.
Great Horned Owls—$2.00 for adults, and $1.00 for fledglings killed between November 1 and May 31.

1937—First Dog Training Preserves established in State in Elk and Montgomery Counties.

1937—Archery Preserves first established—(2)—one in Forest and one in Sullivan County.

1937—The Game Law recodified—Act of June 3, 1937, P. L. 1225.

1937—Game Propagation Areas authorized by law.

1937—Unlawful to use firearms or bow and arrow while intoxicated, or under the influence of drugs.

1937—Possession of loaded guns in automobiles or other vehicles forbidden.

1937—Game Commission again given the authorization to revoke hunting licenses instead of the Department of Revenue.

1937—Groundhogs—or Woodchucks—first classed as game and given protection.

1937—Accident reports to Game Commission required within 72 hours from person causing injury to himself or another while hunting or trapping.

1937—Game Commission given broader power in the establishment of seasons and bag limits.

1937—Game Commission given authority to provide for bounty payments.

1937—Title of Administrative Officer of Game Commission changed from Executive Secretary to Executive Director.

1937—Board of Game Commissioners changed to Pennsylvania Game Commission.

1937—Terms of Game Commissioners increased from six to eight years.

1937-38—First State-wide winter game trapping and transfer program inaugurated.

1937—Unlawful to use more than three shells at a time in a magazine shotgun or pump gun.

1937—Law enacted providing for the establishment of Regulated Shooting Grounds.

1937—Unlawful to shoot or discharge a firearm within a safety zone of 150 yards of occupied buildings, without permission of the owner.

1938—First State-wide season for antlerless deer only—kill 171,662.

1939—May 13—Bounty removed from Great Horned Owls.

1939—Game Commission reorganization—effective January 1.

1939—Appointment of Game Commissioners from 8 specified geographical Districts.

1939—Guns discharging a .22 or .25 caliber rim fire cartridge prohibited in killing big game.

1939—Special Wildlife Refuge Projects authorized.

1939—Cost of Antlerless Deer Permits reduced from $2.00 to $1.00.

1940—All-time high kill of deer made—186,575. Spike bucks only protected.

1940—July 1—Bounty of $4.00 placed on red fox—only in:
Division C—9 Counties (all)
Division E—8 Counties "
Division F—9 Counties "

1941—Provision made for permit to retain flesh of big game for six months' period at a cost of one dollar ($1.00).

1941—Third student class enrolled in Training School—June 7-February 28, 1942—with 24 men graduating.

1941—Special dog training areas authorized.

1942—To present date. Hunting license tags made of vulcanized fibre.

1942—Hunters were urged to donate deer skins, and their sale was also sanctioned, to make vests for members of armed forces.

1942—March 31—Bounty removed on red foxes in Counties of Divisions C—E & F.

1942—Commission given authority to change daily hunting hours, hours for training dogs, and the hours for carrying rifles and ammunition at night, to make adjustment for time changes established by Federal law or regulations, which were created as a wartime emergency.

1943—Sale of deer hides within ninety (90) days after close of season authorized.

1943—Trespass law amended to give lessee or occupant of land, in addition to owner, the right to post against trespass. (This is not a Game Law amendment but rather an amendment to the Penal Code of 1939.)

1944—July 15—Gray Fox bounty of $4.00 continued.
Weasel—Increased from 50c to $1.00.
Goshawk Adult—$2.00—Fledglings $1.00 continued.
Great Horned Owls—Adults—$4.00—Fledglings $2.00.

1945—July 16—Gray Fox bounty of $4.00 continued except Chester and Delaware Counties.
Red Fox bounty of $4.00, except Chester and Delaware Counties.
Weasel bounty $1.00 continued.
Goshawk—Adult $2.00—Fledglings $1.00 continued.
Gread Horned Owls—Adults $4.00—Fledglings $2.00 continued.

1945—New State Wild Turkey Farm at Barbours, Lycoming County, started operations.

1945—Free hunting licenses authorized for Pennsylvania residents in active service of the U. S. Armed Forces or their allies.

1945—Requirement for compulsory annual game-kill report eliminated, excepting for big game, effective September 1, 1945.

1945—State Wild Turkey Farm acquired. (Lycoming County.)

1945—Commission authorized to post beaver colonies against trapping in dams or within 200 feet thereof.

1945—Number of farms in Pennsylvania—173,267.

1945—Payment of bounties to public employes, including salaried Game Protectors, Fish Wardens, etc., authorized.

1945—Law on tagging big game amended to require *immediate* tagging of deer and bears, instead of within four hours.

1945—Cooperative farm-game program extended to entire State by amendment to the Game Law, instead of by regulations of the Commission only. This program made more attractive to landowners by allowing them to reserve trapping rights.

1945—Annual bear damage fund for damage to *livestock,* poultry and bees increased from $3000 to $5000.

1946—Western Game Farm near Cambridge Springs, Crawford County, started operations for propagation of ringneck pheasants.

1946—Game Commission reorganization—effective December 1.

1946—Fourth student class enrolled in Conservation School—June 1-May 31, 1947—with 28 men graduating.

1946—Training period at Conservation School increased from nine months to one year.

1947—July 16—Bounties continued same as 1945.

1947—September 16—Bounties on red foxes in Bucks and Montgomery Counties discontinued.

1947—Fee for Nonresident Fur Dealer's License was increased from $50 to $100.

1947—Regulated shooting grounds—alternate boundary marking method provided; shooting seasons on these areas also changed.

1947—Law passed making it illegal to disturb or interfere with Commission traps set for wild animals or birds by employes or agents of the Game Commission.

1947—Authority granted to Commission and its local field officers to issue permits to possess the flesh of ALL legally killed game six months beyond the 60-day normal possession period. (Migratory game birds excepted.)

1947—The law covering possession of *unloaded* firearms in vehicles at night was amended to include all rifles and shotguns, which must now be in a case, or taken apart and securely wrapped.

1947—Safety zone provisions broadened to prevent shooting at, hunting for, chasing or disturbing any wild birds or animals within safety zones, without having *advance* permission of the owner or occupant. (See (1937.)

1947—*All persons* involved in hunting accidents required to submit accident

reports in duplicate to Game Commission within seventy-two hours. (See 1937.)

1947—Bounty law amended: penalty for fraudulent claims reduced from $100 to $25, but now applies to each skin or bird submitted. Bounty payments restricted to residents of Pennsylvania.

1948—Fifth student class enrolled in School of Conservation June 1-May 31, 1949—with 25 Pennsylvania men and one man from the Game Commission of the State of Washington completing the course.

1948—The Seventh Field Conference and School of Instruction for all field officers and the Harrisburg Office staff and other employes was held on the military reservation at Indiantown Gap from Sunday, August 29 until Wednesday morning, September 1. There were 237 employes present.

1948—June 1 to May 31, 1949. Bounties:
Gray Fox—$4.00 excepting in Chester and Delaware Counties.
Red Fox—$4.00.
Weasel—$1.00.
Great Horned Owl—$4.00 for each adult. $2.00 for each fledgling.
Goshawks—$2.00 for each adult. $1.00 for each fledgling.

1949—Resident Hunter's License Fee increased from $2.00 to $3.15.

1949—Game Commission reorganization—effective June 1.

1949—July—Joint Agreement made between the Game Commission and the U. S. Forest Service for the development of food and cover for wildlife on the Allegheny National Forest. Previous Memorandum of Understanding was signed in 1938 but actual cooperative action was not taken until 1949.

1949—May 5—The U. S. War Department deeded 14,000 acres of the former Tobyhanna Military Reservation, Monroe County, to the Pennsylvania Game Commission, for wildlife management purposes.

1949—June 1 to July 31, 1949. Bounties:
Gray Fox—$4.00 each excepting in Chester and Delaware Counties.
Red Fox—$4.00 each excepting in Chester and Delaware Counties.
Weasel—$1.00 each.
Great Horned Owl—$4.00 for each adult and $2.00 for each fledgling.
Goshawk—$2.00 for each adult and $1.00 for each fledgling.

1949—August 1 to May 31, 1950. Bounties:
Gray Fox—$4.00 each excepting in Chester and Delaware Counties.
Red Fox—None (Bounty removed).
Weasel—$1.00 each.
Great Horned Owl—$5.00 for each adult. $2.50 for each fledgling.
Goshawk—$5.00 for each adult. $2.50 for each fledgling.

1949—Nonresident Hunter's License Fee (hunting only) increased from $15.00 to $20.00.

1949—Nonresident trapper's license, fee $25.00 established.

1949—The 75c formerly set aside from each resident hunter's license fee for the purchase of game lands was eliminated and substituted there-



for was the sum of not less than $1.25 from each resident hunter's license to be used for the development of food and cover for wildlife, the purchase, trapping and distribution of game, and the protection of farm-game cooperative property.

1949—Procedure for abrogation of antlerless deer seasons liberalized.

1949—Penalty for unlawful killing of bear increased from $100 to $200.

1949—Period for dogs working on wild game in field trials, under permit, extended 15 days to include full month of April.

1949—Certain disabled resident veterans, whose disability was service-incurred, to be granted free hunting licenses.

1949—Regulated shooting grounds—Bobwhite quail, of a species approved by the Commission, added to list of game birds that may be killed.

1949—Number of permits for special dog training areas for any one county increased from four (4) to six (6).

1949—Annual fixed charges, in lieu of taxes on State Game Lands, increased from 5c to 7½c per acre. (This is not a Game Law),

1949—Menagerie permit no longer necessary for any menagerie exhibition at a county fair, or with Game Commission approval, for any such exhibition elsewhere when sponsored by sportsmen's organization.

1949—Settlement of certain violations by field acknowledgment of guilt clarified by eliminating offenses designated as misdemeanor or felonies.

1949—Game Commission required to pay counties $1.00 per day for the maintenance of Game Law violators imprisoned in county jails.

1949—Game Commission required to pay all costs when no bird or animal or other incriminating evidence is found on a search warrant.

1950—June 1 to May 31, 1951. Bounties:
Gray Fox—$4.00 each excepting Chester and Delaware Counties.
Weasel—$1.00 each.
Great Horned Owl—$5.00 for each adult. $2.50 for each fledgling.
Goshawk—$5.00 for each adult. $2.50 for each fledgling.

1950—Field Administrative Divisions reduced from 7 to 6—June 1—New realignment of field division and districts.

1950—Sixth Student Class enrolled in School of Conservation—May 1-April 30, 1951—with 20 men completing the course.

1951—Provision requiring the tagging of parts of big game carcasses for possession or transportation eliminated from law.

1951—Uncased and unwrapped guns and loose ammunition permitted in vehicles at any time, provided the guns are unloaded.

1951—Semi-automatic shotguns legalized for hunting and killing of small game, predators, and unprotected birds.

1951—Period for Retriever Trials lengthened to extend from October 1st to March 31st instead of from October 15th to December 31st.

1951—Possession of lawfully killed game, excepting migratory game, permitted up to and including July 1st of following year, without a permit.

1951—Permit eliminated to retain in possession live raccoons taken legally.

1951—Season extended on certain classes of Regulated Shooting Grounds to end last day of February, instead of December 31st.

1951—Special open season authorized for hunting deer with bows and arrows exclusively, under a special $2.00 archery license.

1951—Hunting, trapping, or dressing out of game prohibited within cemeteries and burial grounds. Game Protectors may remove game or vermin with proper permission.

1951—Dog training season lengthened, beginning in 1952, to extend from August 1st to March 31st, next following, instead of August 20th to March 31st.

1951—Abrogation procedure for antlerless deer seasons eliminated.

1951—Special antlerless deer season authorization given Commission, under a county quota system (with no abrogation permitted), with antlerless deer hunting licenses costing $1.10 each for county desired; 60% of licenses to be issued by County Treasurer and 40% by the Department of Revenue, Harrisburg.

(The 1951 Legislature was still in session when this material went to press: Additional minor game legislation was pending.)





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Conservation Pledge

I give my pledge
as an American to save
and faithfully to defend from
waste the natural resources of
my country—its soil and
minerals. Its forests, waters,
and wildlife.

PENNSYLVANIA

Game News

DOCUMENTS SECTION



OCTOBER 1951

10 CENTS



THE STORY BEHIND THE COVER

STATE Game Lands now number more than 825,000 acres. On them hunters may enjoy healthful outdoor recreation at no expense other that the price of their hunter's license fee, a portion of which is used to maintain these public domains for their use and for the use of our citizens as a whole. Good sportsmen are welcome on the Game Lands always, and they can count on the courtesy and cooperation of the District Game Protectors who look after these wildlife areas. Signs denoting their location are conspicuously posted. Beneath the one above District Game Protectors L. D. Mostoller and C. E. Jarrett exchange greetings with two prospective gunners.

These signs also beckon the transient tourist, the picnicker, the hiker, the cameraman and the nature lover. On some of them natural and Commission-impounded lakes exist which provide fishing, boating and other recreation for those who like to visit the forests during off-shooting seasons.

The Commission invites everyone to enjoy the facilities which these vast areas offer in the way of sport and outdoor communion. In return, it asks only that those who use the lands do not mistreat them. Be careful with fire. Do not throw refuse into streams. Do not make a garbage dump out of a choice picnic site. Be careful while hunting. Treat the area, and the custodians of the area, as you would like to be treated if your positions were reversed.

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Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

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Our Land And Our Living

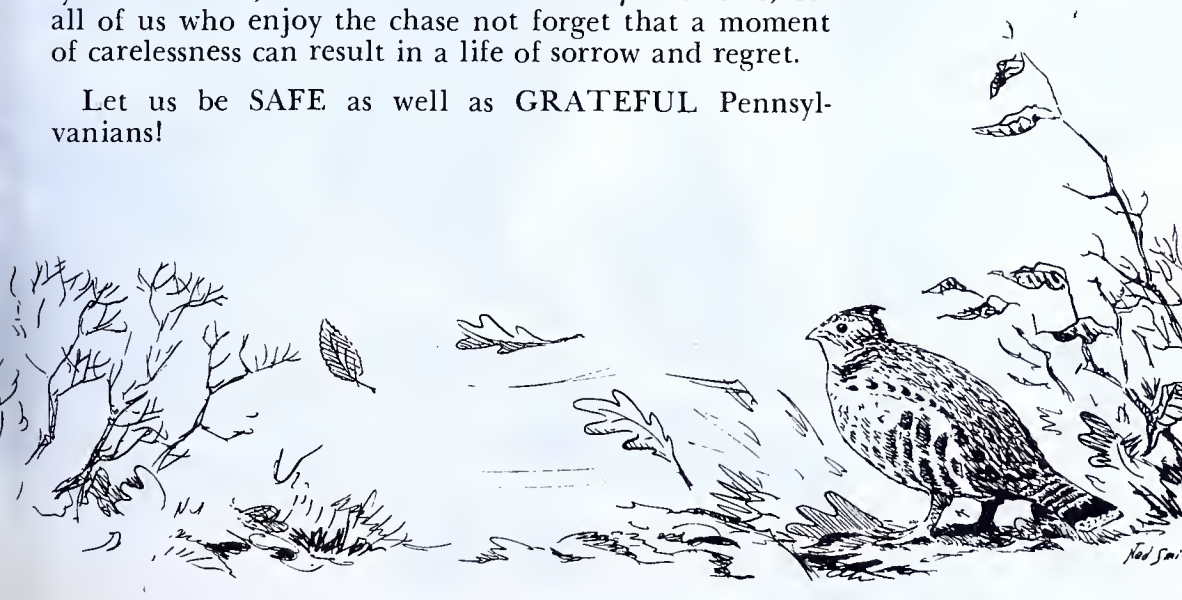
With deep pride we boast to others, and often to ourselves, "Pennsylvania is a great State." We have a right to boast, but more of us should express our pride by act and deed, not regard it merely as a pleasant dream to be imprisoned in our subconscious minds.

From the time of William Penn to the present day, Pennsylvania stands historically, traditionally, agriculturally, industrially, commercially, educationally, religiously, scenically, recreationally and progressively as a monument to the people who have made it so outstanding. It is truly the Keystone State of a great nation. It is fitting, therefore, that its citizens be given an opportunity to honor its name and hail its progress.

This year, Governor Fine has proclaimed October 15th to the 21st as PENNSYLVANIA WEEK. Let us celebrate that occasion by taking an active part in the local demonstrations commemorating the event; by being grateful for the good life we enjoy in this Commonwealth; by pledging ourselves anew to protect and preserve the natural resources which make up our most valuable heritage; by remaining good friends and neighbors so that we constantly present a formidable and impassable barrier against all who would rob or oppress us; by obeying the rules of chivalry and morality, of caution and safety; by being loyal Americans and good Pennsylvanians.

Since "Hunt Safely Week" immediately follows "Pennsylvania Week," from October 22 to 27 inclusive, let all of us who enjoy the chase not forget that a moment of carelessness can result in a life of sorrow and regret.

Let us be SAFE as well as GRATEFUL Pennsylvanians!



Hemlock Grouse

By Richard Alden Knight

CONTRARY to popular opinion, I have always felt that a grouse is not the toughest shotgun target available, A scared woodcock, quail, dove or teal—all of these provide more difficult shooting. Where the grouse piles up his credits is in his choice of cover. It is a rare instance that a grouse will give you an open, unobstructed shot. Those that do are the birds that you kill. He doesn't possess the deceptive change of pace of a dove or the twisting, skidding tactics of a woodcock. But put him where a twig can be put behind him and you can depend upon the fact that you will be looking at the wrong side of it.

Last season, I had the good fortune to see a grouse setting up his



strategy. I was on the wing of a drive and, seeing a spring nearby, stopped for a drink. As I straightened up, I heard the bird moving in the leaves. Sitting quietly, I watched the grouse ease behind my partner. He would run, crouch and look—then scuttle to the next piece of cover. When he was far enough behind the party to satisfy himself, he flushed and slid down into the valley.

For obvious reasons, a grouse loves hemlocks. He roosts in their heavy branches at night because they offer him the best in protective cover. He feeds near them as they offer him the perfect escape route should he be disturbed. But to the hunter, hemlocks are a green maze where grouse are shadows, gone too quickly for even the fastest shots.

Successfully hunting heavy cover for grouse is a knack not easily acquired. A common failing of too many hunters is that they move too fast and make too much disturbance. In an average day in the field, most gunners will walk by far more game



than they flush. Put yourself in a grouse's position. If you know the location and course of some large thing moving through your feeding ground, you would sit tight rather than expose yourself. But should this movement be slow and deliberate, with a minimum of noise, worry and fear overcome inate caution and you would flush for places far removed.

The old market hunters of years back found that slow hunting paid off. To be sure, they had limitless numbers of birds to shoot and gunning pressure wasn't what it is today. Regardless of that, they hunted slowly. With the limit now at two birds, the hunter must use every trick in the book to fill his bag, and slow hunting is one of the important ones.

It has become more apparent in recent years that the ruffed grouse is no longer a deep woods bird. With a large deer herd grazing flat his normal feeding areas, he has taken to the thickets, the clumps and the scrub edges rather than the forest land. Each year, we are finding a large number of grouse in our woodcock covers. I have flushed them out of patches not much larger than my desk, in the middle of a field. This is indeed a radical change in environment.

With this change of habitat has come, of necessity, a drastic revision in hunting methods. Gone are the days when a hunter can ease through the woods, his grouse dog coursing ahead of him in relatively plain sight. Today's grouse dogs are rarely in sight and usually are located by a collar bell. The dog must range through the worst in dog cover—low briars, laurel and hemlock and his endurance takes a terrific beating. The birds do not lie well and it is the occasional point that nets a shot. As the result of this, many dog men are walking up their grouse rather than subjecting their animals to such punishment.

Walking up grouse is not as much of a "catch as catch can" proposition as it seems. With practice, you can sense when to be ready for flushing birds. But I can not stress the fact too often that speed of pace is not an asset. If it takes you all afternoon to work a good hollow, you will find that in the long run you will get more shots than you would by covering two or three hollows in a hurry. Walk a few steps, then stop and

listen. Watch the ground ahead of you—sometimes you will spot birds running. Keep yourself constantly in position to take advantage of the shot to come. Never "blanket" yourself by walking *directly* to a windfall or snag. Keep to one side and circle quietly and you will find that you will see far more birds.

It is difficult to cope with a bird that flushes from the branches of a tree over your head. He holds all the trump cards and rarely will you see him. But mark the sound and direction of his flight and the chances are he can be put up again in a more advantageous location. I have found that a flushed grouse, unless shot at and seriously scared, will scale off and light running, more often than not, within the first hundred yards of flight. These birds can be marked down and worked several times before they are driven from the cover.

In planning a grouse drive, remember that it stands to reason that driving the birds from heavy covers to the edges and swales will set-up your day's shooting. Don't be overanxious for shots while driving heavy cover. Plan your shooting for the more open spots and your average will stay at a good level.

Many gunners, shooting grouse on a once-in-a-while basis, complain about the lack of "open" shots. Used to the relatively unobscured view of their targets offered by open-field shooting, they feel blocked by the screen of trees and brush that a woodsgunner accepts as standard conditions. I have killed grouse *through* a hemlock tree, swinging ahead of him and shooting blind. To be sure, a portion of the pattern will be absorbed by the branches, but a major part will sift through to score on your target. Fix your eyes on the bird, swing with him and shoot. Don't worry about trees; if your lead is right, the grouse is yours.

The selection of proper loads is an important aspect. A grouse is a tough bird to kill and if "scratched down," will run like a deer. When you hit him, you must center him hard and put him down to stay. But the use of heavy loads is not the answer. Heavy loads deform a larger number of pellets and leave gaps for your target to sift through. Shooting as you are under difficult conditions a majority of the first shots you encounter will be inside the 25-yard mark. For this reason I have always used a mixed load. In the right barrel I carry trap load 3¼ dram 7½'s and, for the longer second shot, the left barrel is loaded with 3¾ dram 6's. This high speed load will reach out and give you the maximum in pattern and striking power.

Last, and of major importance, is a trick I have learned the hard way. *Run,* do not walk, toward a fallen bird. *Reload* on the run and never approach a downed grouse with an empty gun. I did that once and he took off from under my hand, leaving me helpless to stop a wounded bird from escaping. When your bird falls, mark the leaf, if possible, beside which he fell and get there as fast as you can. If you cannot locate him immediately, drop your hat where you saw him fall and search around it. Chances are that if he wasn't entirely dead, he will crawl under the first piece of ground cover. Scan these obstructions carefully and as often as not you will locate him.

Grouse didn't gain their reputation as top game birds without earning it. They are smart and elusive and the gunner who consistently kills his share has my admiration. But, all in all, they can be outsmarted and, in doing this, the hunter has proved himself. The next time you meet a man in the field with a limit of grouse, don't credit it all to good shooting—he used his head too!

. . . *The End*

Take a Boy Hunting

By Henry P. Davis

THE soft caress has gone from the southern breeze. There is a tang of fall in the air. Morning mists drift lazily in the valleys and woodsmoke hangs heavy on the hillsides. Another hunting season is in the offing and a record number of small game hunters will take to the woodlands once again.

If you want to get the most pleasure out of your hunting this season, here is a bit of advice that is guaranteed to produce good results: TAKE A BOY HUNTING AT LEAST ONE DAY!

His bombardment of seemingly foolish questions may bore you at first, his awkward efforts to negotiate heavy cover quietly will probably irritate you, and you'll likely want to commit mayhem the first time he yields to the temptation to raise his head for "only a little look" just at the moment the ducks have decided to pay your decoys a visit.

But when you see the look in that lad's eyes as he retrieves his first duck, or watch the glow of proud accomplishment spread over him as he fondles the warm body of his first quail, you'll experience a thrill you'll never forget.

Teach him little bits of woodcraft, little morsels of birdlore, simple things about game habits. Watch him absorb these little things and realize their importance—and you'll have a front seat in watching a boy grow into a man.

See that he is well and comfortably shod; don't let him get a blister on his feet. Be sure that he keeps his feet dry. Advise him against carelessness about fire. Show him examples of the ravages of erosion and tell him how it could have been prevented; teach him the niceties of field etiquette.

Stop and rest with him occasionally. These periods afford good opportunities to answer questions and explain the many whys and wherefores. Demonstrate proper gun handling, show him the importance of leading the target, help him estimate distances. Don't impress him with the heaviness of your game bag but teach him the fun of taking home a little and the importance of leaving more.

Juvenile delinquency? You'll say it's just a bugaboo!

. . . *The End*



Without adult guidance and companionship these boys are learning to hunt and shoot the hard way—and the dangerous way.

Photo by W. M. Rittase



Pennsylvania Wildlife Conservation History

CHAPTER XI

A PROUD RECORD

STOCKING and propagation of game birds and animals are very commonplace procedures today. The Game Commission, Farmer and Sportsmen are all cooperatively engaged in raising and turning loose thousands of game birds annually and thousands of rabbits are imported and released each year. In fact, it has become such a successful and common practice that we give little thought to its origin in this state.

In delving through the old records of the Commission the first official account that consideration was being given to the idea of importation, propagation and stocking of game was incorporated in the report of Secretary Kalbfus to the Commission on November 1st, 1904. In this report, he lists among other things—"The necessity and propriety of adopting some system whereby the Game Commission might purchase, or propagate, or both, secure game of all kinds for free distribution, especially on the lands of the state."

How much thought had been given to this idea previous to this time, is a matter for conjecture. That it had been given a try is obvious as the next year the Secretary records the fact that stocking had been carried out by sportsmen as a private venture with this interesting paragraph shedding some light on those early efforts:

"Six times to my certain knowledge since I first began to take special interest in this work, quail, because of severe winters and slaughter of market hunters, had become almost extinct in Pennsylvania. Six times the sportsmen of this state as an organization, with a limited number of outsiders, went down into their pockets and furnished the cash wherewith to buy quail in other states and bring them into this state. This same thing has been done every year, to a more or less degree and I feel perfectly safe in saying, that were it not for this importation of quail there would not be a single covey in this state today."

"Four years ago quail for propagating purposes could be secured without limit from almost every state of the south and west; today I can count such states upon the fingers of one hand, the supply being limited from these and the price three and even five times what it was four years ago. We have been forced into the position where we must protect and save our own birds if we hope to have any in the years to come."

It is apparent from this account that the sportsmen had raised enough support to this program they had launched to wheedle an appropriation out of the Legislature, for the Secretary goes on to say:

"We now have at our disposal a special appropriation of $6,000, given to the Commission for the purpose of propagation and purchase of certain game. In the matter of game I feel we can purchase to much better advantage from overstocked private preserves in the state, then we can by propagation and would recommend that this method be adopted. I understand that a limited number of quail can be purchased from some of the states in the south and west. I have determined with the permission and order of this Commission to trap certain wild turkeys in the spring, releasing same in territory well adapted to their prosperity and where a few years ago this game was found in considerable numbers, but where at this time, because of inadequate protection, have become extinct. Some of the male birds thus secured, I desire to retain in captivity with certain females of a species found near Hopewell in Bedford County. The birds of this species at this time appear to be about one-half wild and are reported to be capable of foraging for themselves even during the severe winter weather, and I believe, with

the addition of the wild blood thus introduced will make typical wild turkeys, able to care for themselves anywhere at any time. Some of this work, I know, is purely experimental and we may fall short of success, but I feel that without a beginning there can be no finish, and I therefore recommend that a committee of such number as you may deem best, be appointed by this Commission at this time to look after these interests and direct the disbursements of this money."

Here was a young Commission feeling their inexperienced way along the path to better game and better sport and with a sincere desire to conserve them for all time.

Who served on that first Official Propagation Committee of the Commission is not contained in their reports. That a committee did serve and spent the money appropriated is apparent from this excerpt from the 1905 record.

"You are aware we imported from Alabama something like 3,700 quail last spring at a cost of $9.00 per dozen (six cocks and six hens). These birds are reported to have done exceedingly well in every part of the state. The great majority of them were released by the Game Protectors who have had them under supervision since that time. Many nests have been reported with from twelve to eighteen eggs in each. Five nests were reported as containing more than twenty eggs in each, every one of which was hatched. We had some birds reported as hatching twice. The increase of these birds in addition to the increase of the native birds, that remained have given us quite a fair number of quail in the state. Of course, nothing like what we have had in previous years, and nothing like what we desire to have, but still a fair number, that with limited shooting this fall, and reasonably good protection during the coming winter will give us an exceedingly fair start for next spring."

This same year the Commission also contracted for the delivery of sixty does which were to be placed in the three already established preserves, allotting 20 does to each preserve in an attempt to re-establish the deer herd which had almost been wiped out.

Then in the spring of 1914, something new in the way of game was introduced into Pennsylvania, when the Commission purchased and released 1000 ring-neck pheasants. These birds were liberated in the Southern and Central Counties, where, it was felt, they would have the best chance for survival.

These new birds acclimated themselves to their new surroundings and spread and multiplied. In some cases, leaving the place chosen for the original stocking but turning up in other counties where they had not been previously stocked, apparently choosing their own home grounds and the habitat and food they found best suited to them.

These birds were imported into the state with the hope that the pheasant would help in a measure to relieve the pressure on the other species, particularly the grouse and quail.

By 1915 fully 600 birds were reported legally killed in open season and several thousand birds had established themselves throughout various parts of the state. Pennsylvania's success in the new venture was in sharp contrast with the reports from several other states which had failed in their initial efforts to establish the pheasant as a game bird about this same period of time.

According to these early accounts the Commission viewed the importation of the new game bird with favor. They argued that so long as the ring-neck pheasant could be purchased at no more than $5.00 per pair, and the increase was 8 to 10 birds, then it would provide game for shooting purposes at reasonable



PGC Photo

At the State Wild Turkey Farm in Lycoming County approximately 1700 acres are used to carry out the propagation of wild turkeys.

cost to those who furnished the money.

That they planned wisely is quite evident, but certainly they did not then realize what a treasure chest they had found. Today the pheasant is as much a part of our countryside as any game bird that was an original resident and part of the fauna of our state.

Efforts to purchase game became exceedingly difficult as the years passed and prices went sky high. Many times the game birds contracted for were not delivered for one reason or another and this began to create a new problem.

Like any good team they went into a huddle and came out calling signals for a new play. They placed settings of ring-neck pheasant eggs in the hands of sportsmen in various parts of the state together with a bulletin on hatching the eggs and caring and feeding for the young birds. The Commission watched from the side lines while the sportsmen carried the ball on that first play. It was estimated that not more than 10% of the birds hatched out during this experiment reached maturity. The poor showing was attributed to inexperience, and experiments carried on privately under rigid control proved their suspicion that inexperience and failure to follow direc-

tions in most cases had been the real fault. However, many sportsmen's clubs enlisted and other citizens interested in raising pheasants joined the project, as did the refuge keepers in the 31 primary State Game Refuges which they carried on in addition to their regular work. The project flourished and grew with much better showings as time went on.

As year followed year, the purchase of game became increasingly expensive and deliveries were anything but satisfactory, due to the ever increasing competition between the states in purchasing commercially raised birds. The success attained so far and the difficulties experienced in market buying made the next step a logical one. The Commission went into the propagation business for themselves.

During the biennium of 1928 and 29 the Commission established three State Game Farms for the production of certain game species where they could carry on their propagation projects and produce birds at less cost than they could be purchased on the market.

Two of these farms were to be used for the propagation of ringneck pheasants only. They were the John S. Fisher State Game Farm located near Schwenksville, Montgomery County and the Charles G. Jordan State Game Farm near New Castle, Lawrence County. The third one located in Juniata County in the heart of the state's wild turkey Country was to be given over to the propagation and distribution of wild turkeys.

In 1930 the pheasant farms turned out 75,698 pheasant eggs and the turkey farms produced 3,556 eggs, even though they were still in the construction stage.

At this same time the Commission was also seriously considering establishing a Game farm for the propagation of native Bob-white quail, when the DuPont DeNemours Company at Wilmington Delaware offered the Commission their entire quail propagating equipment because the company intended to discontinue their game farming activities. The offer was accepted and the equipment moved to the Fisher Game Farm and quail raising was added to the program.

Some changes in the original farm locations were later necessary because of unfavorable conditions, but the propagation project progressed steadily and today, there are four game farms.

These present holdings are the Western Game farm located three miles east of Cambridge Springs, Crawford County, purchased in 1946 on which 551 acres of land most of which is under cultivation and is devoted exclusively to the propagation of pheasants. The Loyalsock Game Farm, dedicated in 1934 also has an area of 397.6 acres given over to this project.

The Commission's day-old ringneck pheasant chick program is a popular and well known activity to which hundreds of Sportsmen's organizations and farmers subscribe and participate, successfully raising for release each year thousands of these young birds.

The State Turkey Farm is now located at Montoursville at Barbours, Lycoming County, where approximately 1700 acres are used for carrying on the propagation of turkey. This has been an equally successful venture and has been the means for repopulating the state and providing good hunting for this native game bird.

The Eastern Game Farm at Schwenksville, Montgomery is used primarily for the propagation of bobwhite quail and where every effort is put forth at the present time to overcome the difficulties in raising these birds and to produce a bird that will be hardier and better able to survive present conditions.

For many years the Commission has struggled with another problem, that of the purchase and stocking of rabbits. The cottontail has long been one of the most popular of all the game species and the shooting pressure became so great that it was impossible to meet the demands and still retain sufficient seed stock. No way has yet been found for the successful artificial propagation of wild rabbits, although the commission had a try at it. Neither has the stocking of western rabbits been successful, due to high mortality rates. Beside that, the commission was constantly haunted by fear of importation of disease through these shipments and they continued to search for some method of overcoming these many problems and keep up with the demand.

Since our own supply is an extremely hardy and healthy stock, the Commission had long been of the opinion that the solution lay in an adequate stock of native rabbits to restock territories open to gunning and supply seed stock. If this could be achieved then importation could be discontinued.

They determined to solve this problem if possible and after some experimentation felt they had arrived at an answer. In October of 1949 they launched out on their new idea by authorizing the establishment of rabbit farms on an experimental basis.

For the initial trial one farm was selected from each of these counties: Armstrong, Blair, Clarion, Dauphin, Jefferson, Lycoming, Montgomery and Susquehanna. They were chosen for their suitable habitat and the willingness of the farmer to cooperate with the Commission on the experiment and also for their geographical locations. The plan was to set aside a suitable area, not necessary for agricultural purposes, provide the best habitat possible and use it for a refuge and natural breeding area. The Commission was to advise the farmer on habitat plantings, supply technical advice and supervision and pay $1.00 for each healthy rabbit trapped out of the area and turned over to the Commission for distribution.

The plan has been in operation for only a short time, however, it is growing in momentum and promises to more than fill the bill. Since then, quite a number of additional areas have been added and it is the plan to expand to the place where there will eventually be a rabbit farm in each township, wherever suitable farms and cooperative farmers are available. The rabbits trapped from the farm will be stocked within the township in which the area is located, supplying it with a constant crop of native stock.

Farmers entering into the agreement are not handicapped in their regular agricultural pursuit. Through their cooperation, they are however, provided with an additional source of income from their land and they may also participate in the day-old pheasant chick program.

There is sound and logical reasoning behind the Commission's approach to this problem of long standing, and from the results so far it is entirely possible they have at long last found the solution to one of the biggest stocking and propagation headaches in the conservation field.

Their successful ventures in propagation through the years have been followed closely by many other conservation agencies in our nation, and their methods adopted.

There is little doubt in the minds of those who have followed this new plan that this too will soon be inaugurated in other states.

The leadership and accomplishments of the Pennsylvania Game Commission has set a record for which both the Commission and Sportsmen may well be proud.

. . . To Be Continued



Trigger Tricks for Fewer Misses

By Frank J. Floss

I BELIEVE every hunter that goes afield without any formal training in the art of game shooting does so with the idea in mind that he must shoot as quickly as possible when he flushes or jumps game or the game will be out of range in the wink of an eye. This misconception is responsible for more misses and cripples on game than any other known factor, for once it is practiced it becomes a habit that leads to hasty snap shooting, and robs the hunter of correct aim and range estimation. This results in unhappy moments afield and a frustrated hunter who often hangs up his guns in disgust.

I was at that point at one time in my hunting career. Then I discovered quite by accident one day, that when I took my time I not only had fewer misses, but the game I did hit was killed instantly. From that day on I've made a study of game shooting and have come to the conclusion that the three main reasons for missing or crippling game that are induced by shooting too quickly are; (a) not giving oneself time to aim properly; (b) not letting game get far enough away to allow shotgun pattern time to spread; (c) not taking time to lead game properly. Thus you can see that you have three counts against you before you shoot. Due to haste you either waste a shell blow your game apart, or cripple it.

I know that when hunting you cannot always pick your shots, but I also maintain that you don't have to shoot if you can see that by doing so you may blow your game apart. Restrain yourself and pass up close shots. Today hunters must be conscientious

about their sport and kill only game that they can use or let it escape so that another hunter may have a chance to kill it cleanly. There is no place in this modern hunting world for men who are not sportsmen enough to give game a chance or for those who shoot everything on sight. For if hunting is to continue as one of the greatest outdoor sports every hunter must learn to choose his shots carefully and avoid crippling or ruining his game whenever possible.

How can you tell when game is at the proper range? That, fellow hunter, will depend on how observant you are of the game you may be hunting. If you have ever watched running or flying game you certainly should have noticed that game often follows a set pattern of flight or running. A cottontail rabbit, for example, seldom if ever runs away from a hunter in a straight line, it usually makes a right or left turn after traveling anywhere between ten and twenty yards. When it makes a turn at a reasonable range that is your signal to shoot, for at that moment it presents the best target, due to it being broadside to you. Then too, at this angle the chance of hitting it in the hind legs and crippling it is also minimized.

This is true of practically all game animals and birds. The wise hunter therefore studies his game and waits for the most opportune moment before he shoots.

If you are a pheasant hunter you probably have noticed that when a pheasant takes off from the ground in front of you that it takes off in a steep climb that carries it ten or fifteen feet above the grass or brush before it levels off and resumes natural flight. When it levels off that is your cue to shoot, for it is at this precise moment in its flight that it is moving the slowest and usually far enough away to make a goot shot. So if you are in the habit of shooting the moment a pheasant leaves the ground, checkrein yourself the next time a pheasant takes off in front of you and wait until it levels off. You'll be amazed how easy it is to down a ringneck with one shot. However, when someone else flushes a pheasant and it flies near you don't wait more than a second or two before you shoot for its gaudy colors make it appear to be a lot closer than it really is.

The quail is another gamebird that must be given time to reach the correct range before being shot at. Being a small target to begin with it must be shot at out where your shotgun throws its most effective pattern to insure a clean hit. Therefore when shooting at a quail don't shoot too soon—wait for it to level out before you shoot. For a quail rises from the ground in much the same manner as a pheasant, although their climb is more gradual and not inclined to be as high. Should you miss your quail at the peak of its climb there is ample time for another shot. However, the second shot must be directed a little ahead and a little below the quail to compensate for its downhill flight, to score a hit. Also if you flush a covey of quail don't make the mistake of just shooting in the general direction of the covey. For shooting at the whole covey instead of at just one bird usually results in a miss or a crippled bird. The good quail shot shoots at one bird at a time.

I know you have often heard the ruffed grouse described as a bird to hit due to it being an exceptionally fast flyer and a good dodger. However, there is more than a little speed and dodging connected with why so many men fined a grouse hard to hit. In the first place a grouse does not travel as fast as most men say it does —this impression of great speed is created by the explosive roar it makes with its wings when it leaves the ground. This unexpected commotion often sends a hunter's senses reeling,

and he instinctively throws his gun to his shoulder and shoots before he is even sighted on the grouse. The only way to down grouse with any resemblance of consistency is to ignore the noise that they make on take-off, and wait for a good shot. Make no mistake the grouse is a fast flyer. Always keep in mind that a favorite grouse trick is to put a tree between you and him, so the instant you flush a grouse pick out the first tree in its line of flight and be ready to shoot the instant it nears the tree.

Squirrel hunters each year miss or cripple many squirrels too, because they become overanxious and shoot the minute they sight a squirrel, instead of waiting for a good shot. An old squirrel hunter taught me in my early gunning days that in long range shooting at tough old gray squirrels it is better to shoot a squirrel positioned against a limb or the trunk of a tree, than one perched on a limb with nothing but thin air behind it. With a solid support for the bushy-tail the shot will penetrate his tough hide much better. Of course this rule only applies to those long high shots generally encountered only when hunting squirrels, for it is understood that any game can be killed at close range regardless of their position.

The inexperienced duck hunter is another who often shoots too soon and then can't understand why he misses his ducks so often. I've often seen duck hunters shoot at ducks that were so high in the sky that even the proverbial Long Tom couldn't have brought them down. In duck hunting premature shooting is particularly objectionable, for it not only scares the duck and makes a second shot impossible, but it often causes other ducks in the vicinity to flare, spoiling the shooting for nearby hunters. A good way of determining this is to wait until you can clearly see a duck's colors. When you can do that a duck is usually within 30 or 35 yards of you, and can be brought down with most any shotgun.

The woodcock is another game bird that flushes quite close to a hunter, therefore it, too, must be given time to gain a little altitude before being shot at. Being a small target to begin with it is important that you let it reach the range at which your shot pattern has time to reach its most effective spread. Once on the wing a woodcock has a very erratic flight, and shooting too quickly only lessens your chances of hitting it, so wait until your bird gets the first few twists and turns out of its system.

Even the big game hunter who totes a high powered rifle into the woods in pursuit of deer must refrain from shooting too quickly. He must wait for the right moment before shooting, so as to be reasonably sure of hitting his deer in a vital spot.

Snap shooting at deer is seldom a paying proposition, for a running deer in timber is a shifty target that is most always obscured by dense stands of trees. Trying to follow one with your rifle and maintain the proper lead of three or four feet as it makes those long running leaps is next to impossible. Four out of five times in this type of shooting you end up drilling a tree dead center. However, deer can be hit more or less consistently if the hunter, instead of shooting at the running deer, picks out an opening in the brush or trees ahead of the deer, aims his rifle at the center of this opening at about the height of the deer's shoulder, then squeezing the trigger the instant his head appears at the edge of the opening. This method of shooting deer in timber has paid off for me many times. Try it the next time you go hunting, and see how effective it is for you.

. . . *The End*



PGC Photo by Batcheler

The Making of a Hunting Trip

By N. R. Casillo

ARE you as appreciative of those things which contribute to the success of a hunting trip as you are of the game that you may have bagged?

If you are a genuine woodsman (and who isn't if he answers that elemental call to hit the game trails), you are acutely aware of the many adjuncts which we consciously or unconsciously consider a part of the overall picture.

The pungency of wood smoke tempered by the aromatic odor of a mellow pipe or even of one that's too mellow, when combined with the indescribable fragrance of bacon and eggs or a sizzling steak or just plain beans is a combination to conjure with.

George Short, one of the greatest outdoorsmen that I've been privileged to know, always planned for outdoor cooking on all of his hunting jaunts. His two burner gasoline stove was always handily stored in the trunk

compartment of his car. Bacon smoke, boiled-over and subsequently burnt coffee and even the raw smell of gasoline comprised a triple threat calculated to tumble the sang-froid of the most sophisticated.

We who sat about a small wood fire while George exercised his culinary magic added to the admixture in sundry fashion. Old Sloan McCrae always lighted his pipe with a hot coal from the fire; deftly juggling the glowing member in his calloused hands until he finished what he was saying. The odor was such as to prompt me to dispense with lighter and matches whenever the opportunity presented itself. A smoking ember applied to a freshly charged pipe does more than just ignite it. Believe it or not it actually transforms the civilized tobacco smell into one that exhales the essence of the out-of-doors.

Tobacco blends? Is there a pipe smoking outdoorsman who has never tried his hand at concocting a mixture which he calculated to be the ultimate only to abandon it for another which he thought superior? Clare Book is forever mixing this and that tobacco, adding bits of various herbs and essences hoping someday to hit upon a completely satisfying blend. Of course, he never will.

While on the subject of odors it would be amiss not to mention those that are the very exhalations of nature itself. It seems on occasion as though Dame Nature is exceedingly busy at her pots and pans concocting distillations that have no counterpart in any man-made cocoction.

Man attempts to copy the elusive natural scents which are attractive simply because of their very elusiveness. A few weeks ago my good wife presented me with a flagon of after-shave lotion called *Pine*. Without a doubt it is piney, but that's just it, it's *too* piney. Could it be as capricious as the natural scent that it endeavors to imitate it would be as nostalgic as the last rose of summer.

On a farm where we have regularly hunted rabbits and ringnecks for more than a couple of decades, there is a swale whose lower end eventually melts into a marsh. In the marsh and along its edge are found plants characteristic of such an environment; black alder, willow, skunk cabbage, Joe-pye-weed, ironweed, boneset, pokewood and other moisture loving species.

After a frost has blackened most of the vegetation and leaves are heaped high, the smells originating from that piece of marshland are enough to distend the nostrils of any outdoorsman and cause him to inhale deeply and appreciatively. The smells are nothing more than the combined effluviums of the many kinds of rotting plants, but on a damp, mid-November afternoon and especially when accented by the faint aroma of a passing skunk, they are positively attractive.

I have an idea that the *piece de resistance* largely responsible for the woodsy bouquet is that hairy relative of the daisy family called boneset or thoroughwort. My deduction is based on the taste of the tea commonly brewed from this plant and used as a popular household remedy. And, I may add that the word popular is used advisedly. However, the odor could not work its witchery were it not for the fact that the boneset is aided and probably abetted by the many other ingredients comprising the finished product.

One of the most memorable if not the most enjoyable of Thanksgiving dinners was one we had when four of us became lost in that interminable wilderness between Kelletville and Marienville in Forest County.

Overtaken by darkness while on what we presumed was our way back to the car, we became hopelessly con-

fused in the tangles of Buzzard's Swamp. There was nothing that we could do but find a protected spot and bed down for the night—this despite the fact that we were all scheduled for dinner at eight at the Short's.

In a bit of a clearing in a dense copse of young hemlocks we had as tasty a Thanksgiving feast as I've ever had. True, it consisted of but a single course, our entire day's bag of seven grouse, but those carefully prepared birds expertly done to a turn by the ever-resourceful George certainly hit the spot.

Anyway, there we were in as snug a retreat as could be found in all those parts; with not a worry in the world for we had long since instructed our respective spouses not to expect us home until we showed up.

"But, our dinner date," Bill protested. "Surely they will expect us and when we don't show up they'll begin to worry."

"Nonsense," said George lightly, "they won't worry too much."

However, we were not destined to spend a night in the woods. Shortly before eight o'clock we heard the roar of a truck apparently laboring up a steep grade. Presently, the twin beams of its lights shot up above the trees to the south. They seemed scarcely more than a hundred yards away.

Bill suddenly jumped to his feet. "The road!" he exclaimed. "It must be close by and in that direction," he added pointing in the direction of the light beams.

"I'll try to intercept her," cried Chet as he dashed through the thick evergreen fronds and into the open woodland beyond.

In a matter of moments the roar subsided and then ceased altogether. When the three of us stepped outside the hemlock screen we were amazed to see the gleaming headlights but a scant fifty-yards away. The road paralleled the hemlock thicket.

A few minutes later Chet returned to jubilantly announce that the driver of the chemical wood truck would gladly haul us up the road to our parked car. At 10:30 that night we sat down to do justice to another Thanksgiving feast. However, it's the memory of that earlier meal that I remember best.

"The chorus of the hounds was music to our ears." There isn't a hunting enthusiast who has not seen that statement or some modification of it while persuing the sportsmen's magazines or other forms of outdoor literature. Here is another case of where a successful day's sport is not always reckoned by the demise of the quarry; most sportsmen consider it worthwhile if their prospective victim makes its getaway just so long as the dogs are given a good workout. A workout, that is, with plenty of sound effects. What does it matter if your feet feel like sodden chunks of ice just as long as the clear contralto of Sal or the hoarse chop of old Joe mingle and come floating to you from across the valley like strains of elfin music?

What we aptly dubbed the Dog Fox of Possum Hollow left me as well as my two companions with indelible impressions even though the experience took place some twenty years ago. High atop a railroad cut we awaited the dogs who at the time were working out the intricacies of his trail.

While canine music was intermittently wafted to us by vagrant air currents drifting up the mountainside, a chance glance into the cut below and behind us revealed an astounding sight.

"Look, look there!" tensely whispered Chet as he pointd at a red wraith just entering the yawning ravine.

More unusual than the sight of the fox itself was the fact that the animal was briskly trotting along the top of one of the rails. And its

superb agility indicated that it was an old hand at the trick.

In seconds the fox rounded a curve and disappeared under a rock outcrop. Only then did we tumble to the fact that the fox had once again outwitted us.

The dogs never did ferret out the trail. By the time they arrived at the point where the canny fox had taken to the rail a northbound freight completely wiped out what little scent the cold steel may have originally picked up.

In retrospection, even experiences involving considerable physical hardships may be mellowed down to the point where the very things that were considered distasteful may become outstanding if not positively attractive highlights.

A case in mind is a duck hunt we had in the Oyster River estuary. Accompanied by a companion as foolhardy as I, we embarked down-river in a canoe although a terrific offshore blow was raising Ned with both land and sea. But we figured that the wind would hamper both the take-off and the flight of our quarry.

Our strategy proved sound. By the time we reached the environs of Great Bay we needed only two birds apiece to fill our bag limits.

Chasing a small flock of scaups in an attempt to fill our quotas nearly proved our undoing. Twice we put them up but the high sea that was running was conducive to anything by accurate shooting. By the time we became really concerned about the distance we had wandered from shore it was too late to turn back.

The situation was anything but pleasant. Dusk was at hand and the incoming tide bucking that offshore wind really had the water dancing. A half mile to the south where the currents of the Exeter River tore into those of the Oyster the water actually seethed and boiled.

Attempting to talk in the teeth of that wind was futile. There was only one thing that we could do and my companion in the bow was as aware of it as I. Our only chance lay in negotiating the turmoil ahead of us and try to hit Fox Island which lay a mile or so beyond the maelstrom. If we failed to reach our objective, which at the moment looked pitifully small, we would head straight out into the open Atlantic; that is, we would, if in the meanwhile, we did not capsize.

By the time that my companion finished lashing his shotgun to a thwart and throwing a sickly smile in my direction, we were plunging through the chaotic waters which but seconds before we had so fearfully viewed.

Ten minutes later, with our clothing as thoroughly soaked as though we had been submerged, and our craft groggily rolling with its load of water, we pitched up on to the gravelly beach of Fox Island. As a matter of record, the temperature was well below the freezing point.

Well, the roaring fire which we built in the lee of a big boulder and the burnt and saltless black duck that we had for supper were standouts. They blunted the bite of that long night on the bleak island. But it was some time before we forgot the terror of that fearful quarter hour at the mercy of the elements. Now, years later, the experience is recalled with a tinge of pleasure.

For the convenience of this paper hunters may be placed in 6 classes as follows:

(1) Impatient. These chaps can't wait for the season to open and then proudly brag how they got their deer in the first minute or two of open season. Their names are legion. See front page of all local newspapers during deer season.

(2) Lazy. Hunters in this category are largely inoffensive, but their reputation suffers largely because in their membership are included those who "hunt" deer while enjoying the

comforts of their cars parked on convenient highways.

(3) Those who are solely interested in the extra-curricular activities of camp life.

(4) Those who consider the trip a flop if game is not bagged.

(5) Chest pounders. These are those who revel in the physical contact with their environment be it swamp or swale, meadow or mountain—taking all obstacles in their stride, just like the rugged woodsmen they fancy themselves to be. This class suffers the most casualties what with breaking legs, getting lost and even dropping dead. (6) Woodsmen. These are adaptable fellows who thoroughly enjoy their outing because they know how to take advantage of the limitless potentialities open to them. This despite the fact that their knowledge of woodcraft may be limited. Most of them bring home the bacon, but do not consider their outing a total loss if they fail to do so.

Fortunately, most hunters fall into group number 6. Though they may not all be esthetes, they are appreciative of their surroundings and see beauty in the stark nakedness of trees on a wintry mountainside as well as in the flaming hardwoods of a squirrel wood. The crispy crunch of a newly fallen snow as it is pressed underfoot is no less attractive than the tangy wind as it whips in over the salt marsh. To get the most out of the life that can only be lived out-of-doors is their primary objective. They know full well that the sum total of a successful hunting trip involves more than the mere bagging of game.

. . . *The End*

MULTIFLORA ROSE FENCES SERVE A DOUBLE PURPOSE

In recent years, many farmers have planted multiflora rose to provide living fence and hedgerows. When mature, such fences establish a solid barrier capable of confining livestock within pastures.

Recognizing that the multiflora rose has food and protection features desirable to wildlife, the Game Commission greatly increased its rose planting program in the past two years. Within the last 12 months, over 1,400,000 of rose seedlings were planted on State Game Lands, Farm-Game Projects, rabbit farms, and on other lands under lease to the Commission. The seedlings were obtained from nurseries operated by other state agencies, commercial sources and from small nurseries Commission personnel established on State Game Lands.

Most of the plantings were made to develop living fences, which provide safe travel lanes for wild creatures. Following the procedure of one plant to every foot of row, the total thus planted amounts to more than 265 miles of fence.

Add to this the many miles of rose planted by farmers, and it is readily understood how these growths will considerably increase the food and protection available to small wildlife within the Commonwealth. The rose fences will also provide nesting sites for the farmers' friends, the small, insect-eating birds.



Outdoor Kids

By Hal H. Harrison

IN LATE summer and early fall, Billy sneezes and sneezes and sneezes.

He makes so much noise and goes through so many funny motions that Jane laughs at him, and that makes Billy angry. But Jane doesn't mind.

Billy, like thousands of other people throughout the country, has hay fever. Jane does not. Billy's father has hay fever. His grandfather had hay fever and his great-grandmother had it too.

Billy has learned that his hay fever comes from the pollen of one plant that ripens in the fall . . . ragweed.

Usually hay fever is not dangerous. Many people who do not know

it by name, call it a summer cold. It acts much like a cold, causing violent sneezing, nose running, and eye watering.

The sneezing is caused by an irritation in the nose. The ragweed pollen, breathed into the nose, causes this irritation.

Ragweed pollen has no effect on the ordinary nose. Therefore, hay fever sufferers are those whose noses are different.

Ragweed pollen grains are so small that they must be looked at through a microscope. Then they look like golf balls covered with spikes. The pollen grains are so light that they are carried by the wind as far as one hundred miles. That is why people may have hay fever in a place where no ragweed is in sight.

"Hay" fever is really not a good name for it. About eighty-five to ninety per cent of all hay fever sufferers in early fall can trace their trouble to ragweed, not hay. The only real HAY fever victims are those affected by the pollens of early summer grasses, such as orchard grass, timothy, and redtop.

It is not true that goldenrod causes hay fever, for hay fever comes only from plants whose pollen is carried by the wind. The pollen of goldenrod is sticky and is carried by insects. For the same reason, there is no such thing as a true "rose fever."

Two forms of ragweed are found throughout Pennsylvania: dwarf or common ragweed and giant ragweed. Ragweed seeds form an important food for many birds in winter. The plants grow in waste places and offer excellent cover for wildlife.

So even such a bad weed as ragweed has its good points. Billy knows that but it is pretty hard to make him like ragweed when the hay fever season arrives.

"Shall I pick you a bouquet of ragweed?" Jane asks teasing him.

"A-chew!" Billy answers. "Go 'way with that terrible stuff."

. . . *The End*

Known Range of Oak Wilt Extended in 1950

Oak wilt, a fungus disease which is causing grave concern in forestry and wildlife circles, has been discovered in six new states as a result of the joint survey made by the individual states and the Division of Forest Pathology of the U. S. Department of Agriculture, the Wildlife Management Institute reports. Freshly discovered points of infection were mapped last year in Pennsylvania, Ohio, Arkansas, Nebraska, and Kansas. The disease also was found to be spreading actively in southern Missouri.

Neither the agent which spreads the disease nor its cure has yet been discovered by scientists, although many of them are working overtime on these jobs. Until the manner by which the fungus spores are spread is discovered, there is little that can be done to control the disease. To date only the prompt cutting and removal of diseased trees can be recommended. Where valuable shade trees are involved, ditching to sever the interlocking root systems between infected and healthy trees has been used.

Fortunately, there is no indication to date that oak wilt is developing anything like the whirlwind momentum attained by the chestnut blight that swept like a forest fire through every stand of chestnut in the United States during the second decade of the century. The more gradual and sporadic spread of the disease, coupled with advances in forest research, give substantial hope that a control method may yet be devised.



PGC Photo by Batcheler

The Brother Collects a Woodcock

By Ed Shearer

I LEANED back in the chair at my ranger headquarters and stared out the window at the October rain. It was one of those nice seepy, weepy rains that the Forest Service prays for and seldom gets in a bad fire season. The early fall had been unseasonably warm and dry which meant long days and nights of hanging close to the telephone, checking crew lists, fire tools, portable radios, and just waiting. Now this rain. Yesterday woodcock were as remote as the "whiffinpoof". Today, they were a distinct possibility and with the season opening tomorrow, they might even become a reality.

"Just what the doctor ordered, pardner", drawled a voice over my shoulder. I swung around and my

eyes took in the young Ranger who had draped all six feet of himself in a deep chair. Parked close to him, with his muddy feet on my clean floor, was a big orange belton setter. Practically everybody took a second look at this dog. His name was Country Laddie and his father was the great show setter, Country Gentleman. "Lad" needed one more win for his championship, a fact that did not impress me too much and certainly gave him no right to drip muddy water on my clean floor. However, Lad was also one of the three woodcock specialists that I have known in a long career with bird dogs and that gave him enough standing with me to dry himself in my bed, especially the day before woodcock season. I dubbed him "Squire" from his habit of gazing down his nose while on point with much the same expression as one of the minor judiciary would use on a culprit hailed before the bar of justice.

I opened my mouth to ask a question when the outer door opened with a bang. There followed what seemed to be the charge of the light brigade. The Brother, all 14 years of him, flowed in on us along with a flood of pointer dogs of assorted ages, sizes and enthusiasms. The rush went over the Squire and my dog, Belle, and they promptly joined in the melee of wet noses, still wetter bodies, snarls and growls. Out of this bedlam came the Brother's shrill voice, "Hi Dan! Say, Pop, we sure can go now, can't we?"

"Yes", I replied acidly, "The only thing missing to make things real comfy is that menagerie of yours, Dan." But hunters' spirits cannot be dampened the day before season opening so the Brother departed to haul out guns, shells, and equipment while the young Ranger and I got down to the business of where, when and how.

The next morning we drove along the road to the young Ranger's headquarters in the small village. The Brother was in front holding the Ithaca 16 with polychoke while Belle and a case containing the Browning over-and-under rode the back seat. I brought the dog along at the last minute, thinking the run would do her good. The weather had cleared with indications of sunshine but it was still plenty damp in the covers. At last we arrived at the headquarters where the young Ranger was waving us good morning. Gun in hand he came down the walk, followed by the Squire.

"Hi, Dan! Let's get going", piped the Brother from the front seat. He promptly drew a lecture from the young Ranger on the art of woodcock hunting.

"Brother," he began, "You've been sticking around with your Pop and me for quite a spell now. You know guns pretty good because your Pop used to shoot for a living and you more or less grew up with the smell of gun powder in your nose. You also know a bird dog when you see one, which is remarkable, considering the mutts your Pop's always buying. You know what it is to follow the dogs after grouse where the cover is more open and you can drill right along to cover the miles that mean grouse these days. You know ringnecks down in their country, where the dogs really go wide and fast and you have to hunt at a dog trot sometimes.

"But today, Brother, you're going to collect your first woodcock. Of all the birds you'll ever shoot, you'll never forget your first woodcock. He is the aristocrat among game birds.

"Woodcock hunters are specialists. You have to work up to it. You don't rush. You take things slow and easy. In the bottom cover you'll hunt today you will take it slower but not easier. You'll fuss and fume and claw your way. Through clinging vines and scratching briars you'll go,

your eyes blinded by sweat, your gun feeling as though it were greased. You'll be ready to say to heck with woodcock hunting and then you'll bust through and look up a little valley. You'll see the yellow of the birch, the alder and the popple. There'll be the blaze of scarlet, the shade of purple, and the glint of gold marking the scattered oaks and maples as the afternoon sun touches them. The long grass will appear to be a carpet of dull gold against this background of color. You'll see the fulfillment of all the blossoms of spring. This is the harvest of fall. The poorest man can enjoy it, appreciate it, think about it. And you'll decide right then never to do anything to destroy it.

"And when the dogs point and you move in, gun up, that little brown and buff bombshell goes streaking up to the top of the cover. You see him right at the height of his climb, right over the gun barrel just where he ought to be. You squeeze the trigger and the flying feathers show you caught him in the center of the pattern, a clean kill. You feel good. You glow inside when the dog brings him in and you hold him in your hand. It's wonderful. A beautiful day, a fine piece of cover, a faultless bit of dog work, a gallant bird, smooth gun work—all united to give you that supreme moment.

"Now as you look at him, think! No more will the dogs point him. No more will he raise timberdoodles for times like this. Now he's just torn flesh and bloody feathers. True, there's still the table, but woodcock on the plate can't hold a candle to woodcock under a dog's nose. You'll begin to worry about his family and what will happen to them.

"Then there is a time when you won't want to think. That's when you botch the job and get a cripple. He will most generally stay where you set him down. A wounded woodcock is about the most helpless bird there is. He just sits with his feathers pulled in and waits 'til you or the dog find him or a worse fate overtakes him. You'll remember that mild, inoffensive bird, black eyes meeting yours, filled with fear and suffering in its half-hearted attempts to escape. You'll hold him in your hand and feel his wildly beating heart while you complete the job you botched up. Bad—yes, but then, a hawk, weasel or fox is worse. Right then you learn that a real hunter's reputation is not based on how much game he kills, but, rather, on his ability to kill cleanly the game he does shoot at. And since the best of us are not perfect, that is the reason your Pop and I always use dogs on small game. We owe it to the game not to let it suffer when we bungle the job. Carelessness and thoughtlessness means the end of the outdoors for all of us."

As he had been talking, the young Ranger had climbed into the car and now had things arranged to his satisfaction. So, with a thoughtful Brother, we drove on and finally entered the valley of the big cover. It took us a few minutes to get organized but soon we started in, with Squire and Belle out ahead. We went about fifty yards when the young Ranger called, "Point!" Looking over I saw Belle swing in fast on the Squire. "Careful," I yelled at her and she skidded to a stop. The old devil wasn't going to honor that point and she knew I knew it.

"Move in. I'm going to watch something," I called. In a minute I heard the whistle of a woodcock getting up, the reports of two guns, then the command, "fetch." Belle broke at that but I made her stand fast. The young Ranger and the Brother came over as the Squire brought the bird in.

"Make a fuss over the Squire, Brother. I'll hold this old gal here.

She was goin' to bust that point and I'll teach her a lesson." Now Belle and the Brother are pals and when she saw the Brother making a fuss over Squire, it was truly a case of a woman scorned. I had my hands full making her stand steady. At last, when they moved on, I gave her the word and she went out as though she was on fire. I went down an open glade with dense alders on either side.

"Belle's on point right in front of me," Brother's voice came out of the thicket.

"What? If that old sinner is pointing rabbits again . . . Hold it. I'm coming in". I could just see the Brother when I heard the whistle of wings and caught sight of a shape hurtling upward. The Browning snapped up and I felt its recoil. Then I heard the young Ranger's voice calling, "You nailed that one, Brother."

"What do you mean, he killed it?" I yelled as I broke through the cover to where the two were standing.

"He did. I saw him and here comes Belle with the bird." I stood pop-eyed. Bad enough to be denied a bird that I was sure I had shot, but when a dog that for years would have nothing to do with timberdoodles started pointing and retrieving them, that's too much in one dose.

"All right. You win," I gasped as I sat down. I know when I'm licked. Once, only once, have I seen this miracle of jealousy make a dog, of its own accord, do things which nothing on my part could force her to do. Yet here it was and at what a time.

As the sun started down, I said, "We've just time to swing across the upper corner. I want to see the Brother make one clean kill over Belle. Then it would be a day to remember." So we went on, the dogs covering every inch of ground as though trying to make my wish come true. But try as we might, not a bird could we find and there remained only a small patch of cover with an open glade along side of it.

"I'm going to take the dogs in. You stay out and put the Brother on the edge. It's only a chance," said the young Ranger. Slowly we covered the patch of alders. Finally, with only fifty feet left to go, his voice came out of the thicket. "Point! Right in front. Take it easy, Brother."

There it was and I had a ringside seat right in the open. There at the edge was Belle, all four feet on the ground, tail up, just as she landed. Against the dark background she might have been carved in cameo. The Squire's outline could be dimly seen deeper in the tangle as he displayed perfect manners. The rays of the setting sun striking the popple and birch gave the light an amber quality which made objects stand out crystal clear. Further up the hillside, the maples and oaks added their scarlet and gold. Into this fairyland moved the Brother, gun up, a tense and determined look on his young face.

Slowly, step by step, he moved in on Belle, taking his time like a veteran. Then it happened. With a whistle of wings, right from under Belle's nose, popped the grandfather of all timberdoodles. Up into that amber light he rose, the bright buff on his breast, the black markings on his back, the big eyes and long bill pointing for safety all plainly discernible.

I saw the Ithaca pump come up, follow him, and then the hush of the afternoon was broken by the sharp report of the sixteen. An unseen hand seemed to reach out and stop that beautiful bird in mid-air. A puff of feathers told the story of a direct hit. The magic spell was broken. The Brother had collected his first woodcock. . . . *The End*

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
HARRISBURG

Dear Mr. Grouse Hunter:

I know that every one of you is vitally interested in the future of this grandest game bird of all, and in the future of your sport. The Wildlife Research Division of the Pennsylvania Game Commission is just as concerned about its prosperity as you are. At present, we are conducting research to attempt to find out the causes for the grouse cycle and how we might combat it or live with it best.

Because the grouse is cyclic and fluctuates greatly in numbers about every ten years, we feel that we cannot manage the bird properly unless we know the exact stage of the cycle constantly. When we are in the "low" of the cycle, it probably would be a wise policy to restrict our hunting take somewhat. But during the "high," perhaps we should liberalize our seasons and bag limits markedly since most of our grouse are going to be lost anyway.

You are being asked to aid us in securing information on this bird, because we feel that you are interested enough in the future of your sport to be willing to provide us with accurate, dependable data.

We would like to have you do two things for us: First, save the tip joint (with feathers attached) of <u>one</u> wing from each bird. This is called the pinion joint and holds the primaries (outer flight feathers). From these wings we can determine the age of the birds and find out how successful the hatching and brooding season was. If there are several young birds for each adult, we know that everything is normal and that we are on the upswing of the cycle. If we find only about one young bird for each adult, it probably means that we are near the bottom of the cycle and birds are going to be scarce.

Second, save the two middle tail feathers of the grouse you kill. These should be <u>pulled out</u> so that the whole feather remains intact. From these we can sex the birds (see photo).

Finally, tie the two tail feathers and the wing tip together for each bird and forward all you have to us at the end of the season or deliver to the nearest salaried game protector. Try to get as many as you can from your hunting companions and neighbors, too.

We would appreciate your answering these questions and sending them with your wings and tail feathers:

Did you see more _____, less _____, or about the same number _____ of grouse as last year?

My birds were killed in _____ County.

If you hunted in more than one county, please mark separately.

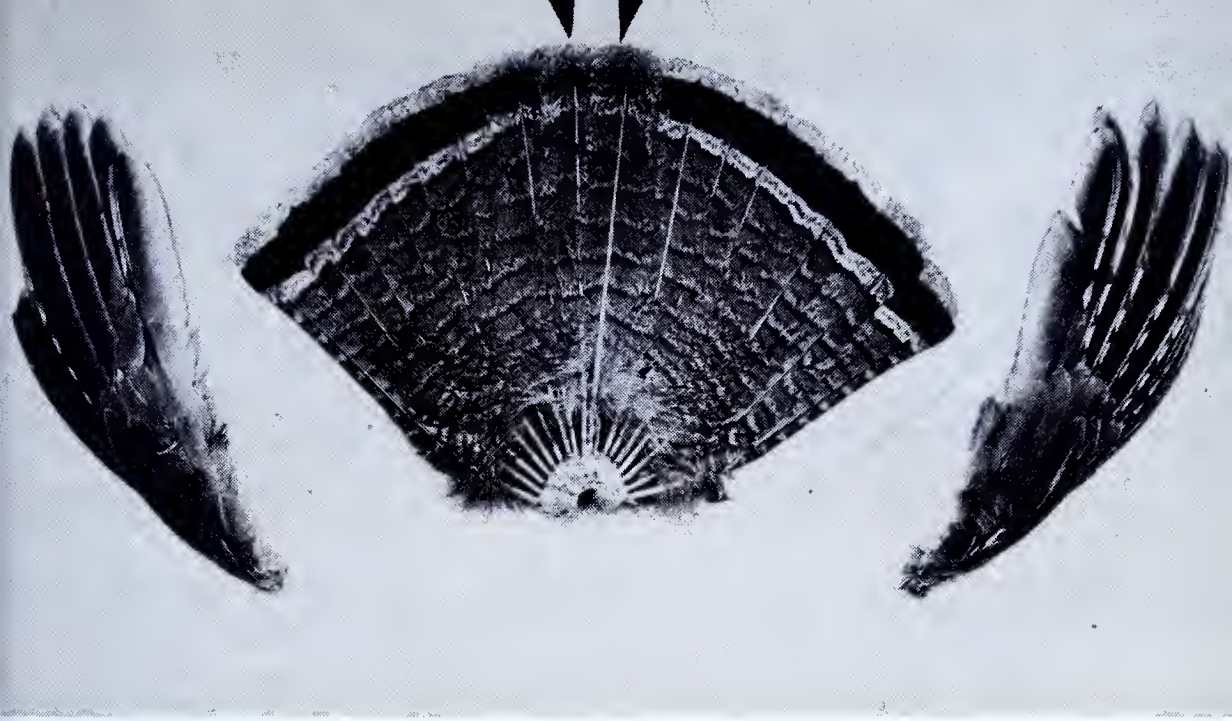
Here's hoping they don't all flush behind the hemlocks or grape tangles this year.

Sincerely yours,

Roger M. Latham

Roger M. Latham, Chief
Wildlife Research Division

RML:MS



P.S. - WE ALSO WANT YOUR TURKEY FEET!

We asked for the wings and tails of any grouse you may kill this year, and now we humbly request that you send us the feet of the wild turkey you are going to kill. Don't kick, you still get to eat the birds and have all the fun of hunting them, while we have to sit down here and sort through all this stuff.

But seriously, we need those turkey feet! We have just inaugurated a comprehensive research study of the wild turkey in Pennsylvania, and we hope that the findings from this investigation will mean better wild turkey hunting for you. From these feet we can get sex and age data. The proportion of young to old will tell us how successful the past nesting season was and how well the broods survived. It will also tell us whether we have "problem areas" where turkeys are not thriving as they should. And, this data will be of value in setting seasons and bag limits.

So instead of tacking them on the garage door this year, forward them to us here at Harrisburg or turn them over to your District Game Protector and help your own sport. We have more turkeys today than we've had for seventy-five years; let's keep them growing!

R.M.L.





PGC Photo by J. S. Chick

Part of a group of interested sportsmen who paid a visit to State Game Lands 188. In the foreground are some of the 18,000 chestnut seedlings being reared for distribution.

Sportsmen Tour Game Lands

Members of most of the sportsmen's clubs in Snyder County were recently treated to a look behind the scenes in the Commission's vast food and cover program. On August 11 the group, in charge of District Game Protector Clarence Walker, toured Game Lands 188, two miles north of Beavertown, on which are located food plots, an experimental chestnut grove and various plantings of food for wildlife.

The chestnut grove stole the spotlight. Here 18,000 seedlings of a blight-resistant Asiatic strain are being reared for statewide distribution in an attempt to once again make chestnuts available to wildlife.

Of the several hundred acres of cleared land available on Game Lands 188 some is share-cropped for grain and the remainder has been utilized in producing food and furnishing cover for wildlife. Large areas have been planted to permanent stands of multiflora rose and shrub lespedeza, and all sloping ground has been planted in contour strips. Much of the poorer land that has been reverting to pine growth has been either cleared or utilized for forest plantings.

The group was shown a nursery on the grounds containing chestnuts, multiflora rose, black haw and other miscellaneous plants suitable for food and cover, and the part played in rabbit management of the area by extensive woodland border cuttings was explained.

Commissioner John C. Herman, of Dauphin, spoke to the sportsmen. Other Game Commission representatives were Arthur G. Logue, Division Supervisor, and Joseph S. Chick, Conservation Education Assistant from the Southcentral Division.

Susquehanna County

Namesake of a River

Fourteenth in a Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

Susquehanna County, situated on the New York State boundary, is named for the north branch of the Susquehanna River, a loop of which enters the northeastern corner of the county.

Land Area

The county contains 537,984 acres of which 268,709 acres are forested. Publically-owned land comprises 11,579 acres and includes 11,555 acres of State Game Lands.

Topography

Susquehanna county is composed of rolling hills and every township but one has at least one lake. The entire county is drained by the Susquehanna River. An interesting topographic peculiarity is found near Montrose. Here three streams have their source in or near the borough, and, although they all eventually empty into the Susquehanna, one flows north, one south, and one west. Principal streams draining the county are the north branch of the Susquehanna, the Lackawanna River, and the Wyalusing, Meshoppen, Martin, Tunkhannock, Salt Lick, and Starrucca Creeks.

Transportation

Railroad transportation is furnished by Delaware, Lackawanna & Western, the Erie, the Lehigh Valley, and the New York, Ontario & Western. The Lackawanna Trail (U. S. Route 11) and other important highways cross the county. In all, the county has 588 miles of improved highways.

District Game Protector

James W. Clouser, Box 461 (25 Main St.) Montrose, has jurisdiction over Apalocon, Choconut, Silver Lake, Middletown, Forest Lake, Rush, Jessup, Bridgewater, Dimrock, Auburn and Springville townships.

Irwin A. Weibel, Route 4, Great Bend, has jurisdiction over Liberty, Great Bend, Oakland, Harmony, Thompson, Franklin, New Milford and Jackson townships.

Dale Fisher, Box 75, Clifford, has jurisdiction over Brooklyn, Harford, Gibson, Ararat, Herrick, Lathrop, Lenox and Clifford townships.

Fish Warden

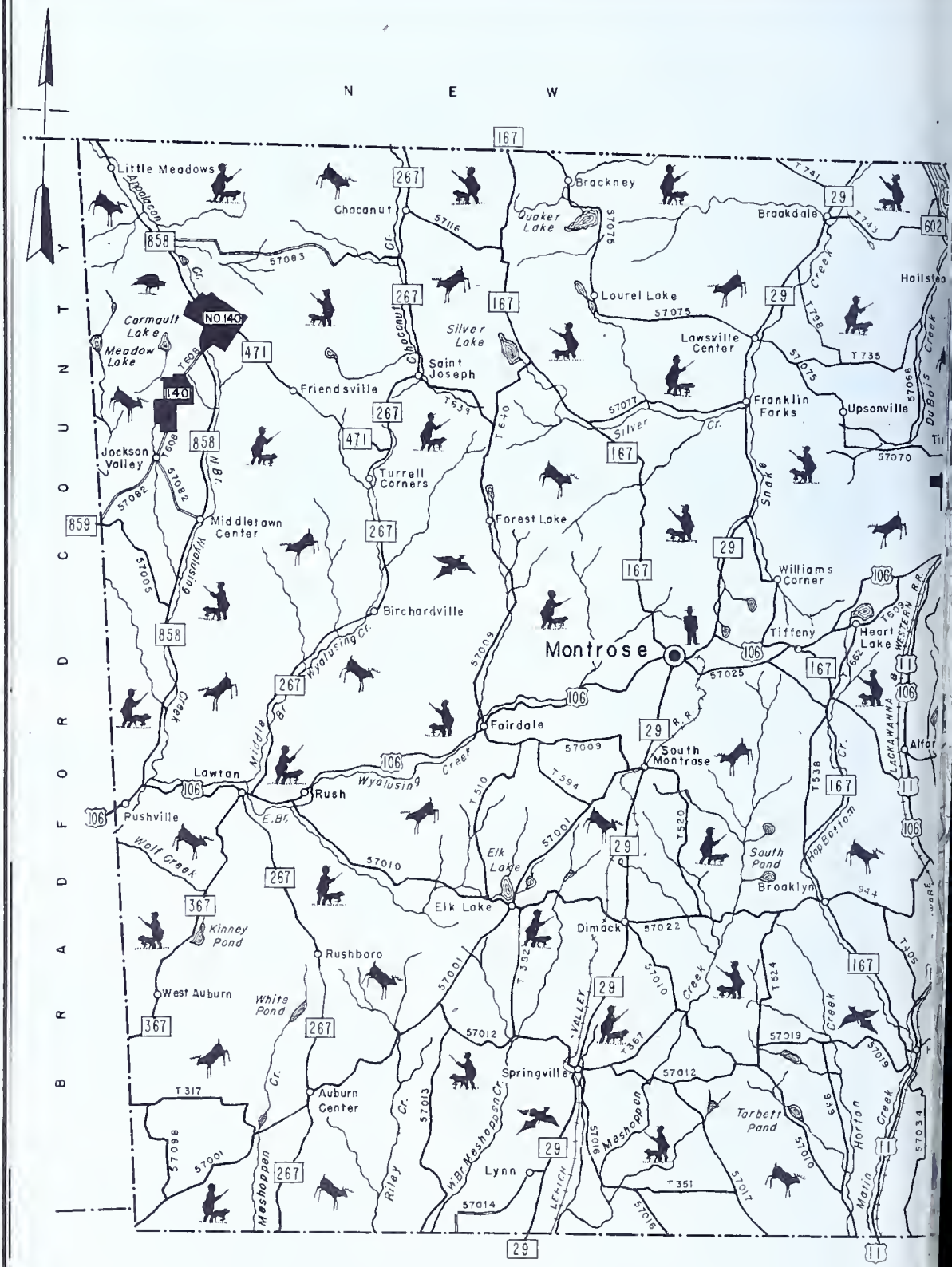
Max G. Noll, 2 Church St., Montrose, Pa.

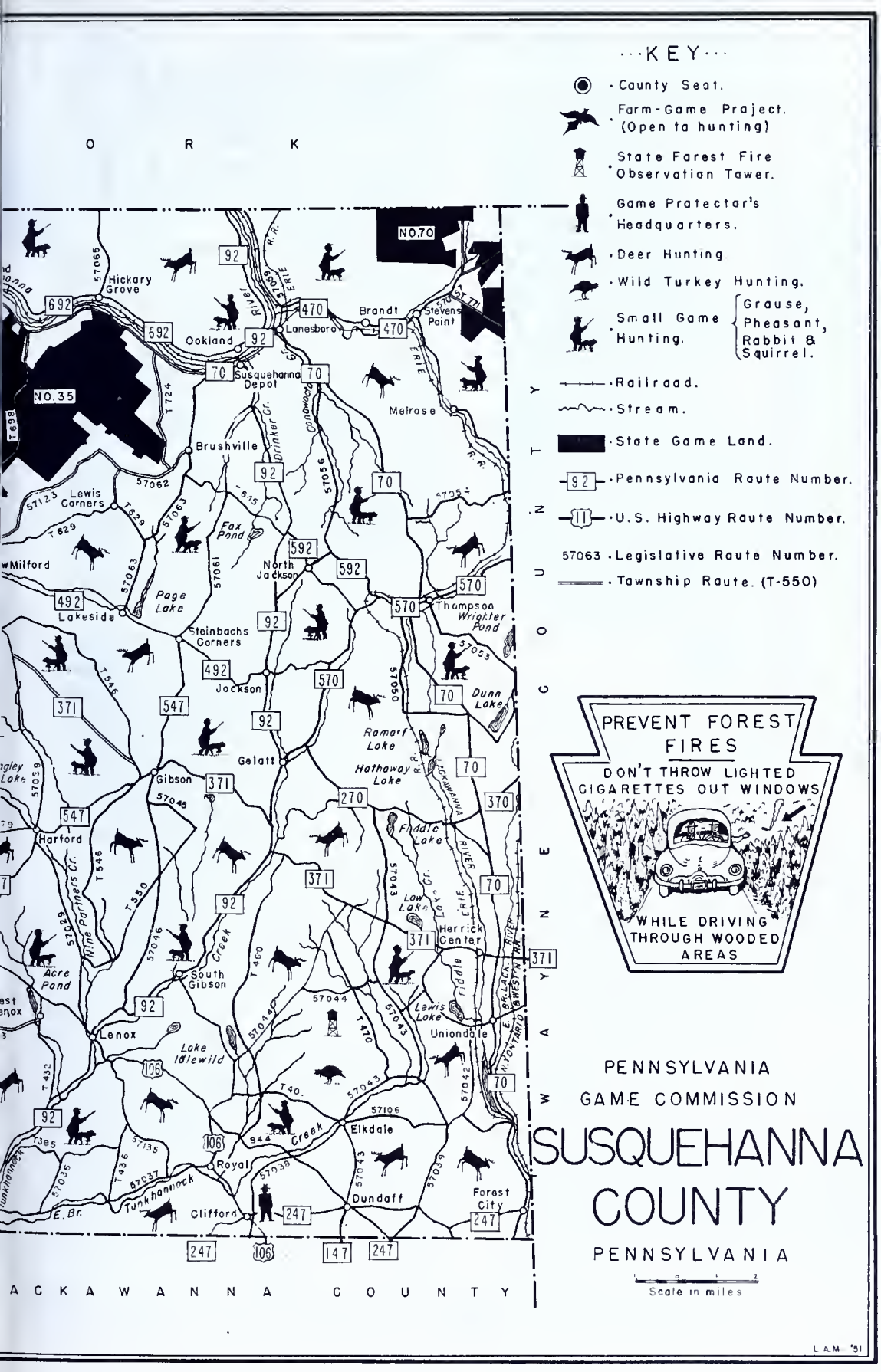
Agriculture

The county occupies an important place in the State's dairy industry, being fourth in the value of cattle and milk produced. The chief farm crops are hay, corn and potatoes.

Industry

The principal classes of industry are metals and metal products, food and kindred products, lumber and its remanufacture. Chief products are slaughtering and meat packing, turned and carved wood, women's and children's clothing, lumber and timber products and anthracite.


N E W
B R A D F O R D C O U N T Y
W Y O M I N G C O U N T Y
Little Meadows
Appalocon Cr.
Chacanut
Brackney
Quaker Lake
Brookdale
Hallstead
Carmault Lake
Meadow Lake
NO.140
Laurel Lake
Silver Lake
Saint Joseph
Lawsville Center
Franklin Forks
Upsonville
Friendsville
Jackson Valley
Turrell Corners
Middletown Center
Forest Lake
Williams Corner
Birchardville
Tiffeny
Heart Lake
Montrose
Fairdale
South Montrose
Alford
Lawton
Rush
Pushville
Wolf Creek
Elk Lake
South Pond
Brooklyn
Kinney Pond
Rushboro
Dimock
West Auburn
White Pond
Springville
Auburn Center
Tarbell Pond
Lynn
Wyalusing Cr.
Middle Br. Wyalusing Creek
E. Br. Wyalusing Creek
Snake Creek
Silver Cr.
Meshoppen Cr.
W. Br. Meshoppen Cr.
Riley Cr.
Horton Creek
Martin Creek
Hop Bottom
Valley
Lackawanna & Western R.R.
167
29
106
11
858
267
471
140
859
367
602
344


O R K
...KEY...
County Seat.
Farm-Game Project. (Open to hunting)
State Forest Fire Observation Tower.
Game Protectar's Headquarters.
Deer Hunting
Wild Turkey Hunting.
Small Game Hunting. Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Game Land.
92 Pennsylvania Route Number.
111 U.S. Highway Route Number.
57063 Legislative Route Number.
Township Route. (T-550)
NO.70
NO.35
Hickary Grove
Ookland
Lanesboro
Brandt
Stevens Point
Susquehanna Depot
Brushville
Melrose
Lewis Corners
Fax Pond
North Jackson
Lakeside
Page Lake
Steinbachs Corners
Jackson
Thompson
Wrighter Pond
Dunn Lake
Ramarf Lake
Hathaway Lake
Gelatt
Gibson
Harford
Fiddle Lake
Low Lake
Herrick Center
Acre Pond
South Gibson
Lenox
Lake Idlewild
Lewis Lake
Uniondale
Elkdale
Royal
Dundaff
Forest City
Clifford
E. Br. Tunkhannock
Tunkhannock Creek
Nine Partners Cr.
Fiddle Creek
Low Lake Cr.
Drinker Cr.
Canawacta
Fall Brook
Lackawanna River
E. Br. Lackawanna River
PREVENT FOREST FIRES
DON'T THROW LIGHTED CIGARETTES OUT WINDOWS
WHILE DRIVING THROUGH WOODED AREAS
PENNSYLVANIA GAME COMMISSION
SUSQUEHANNA COUNTY
PENNSYLVANIA
Scale in miles
L.A.M. '51
A C K A W A N N A C O U N T Y
W A Y N E C O U N T Y

Historic

Susquehanna County was formed from a portion of Luzerne County and in 1811 Montrose was chosen as the site for the county seat.

The county was not settled until after the Revolutionary War. The first settlement was made at what is now called Great Bend, on the site of the encampment of General James Clinton's troops, a part of Sullivan's Army, on its way to attack the Six Nations.

In 1790 nine men from Attleborough, Massachusetts, settled in Harford township. Calling themselves the "Nine Partners" these men fought for civic improvements. In 1794 they established a common school for the education of children, a church was instituted in 1800, and a library of historical works begun in 1807 later became the Harford Academy, one of the first schools of higher education in the State.

Galusha Grow, father of the Homestead Law, lived in Glenwood and attended the Harford Academy. He was chosen by David Wilmot, author of the famed proviso, as his successor in Congress and subsequently made a name for himself battling for free lands and free men. On the withdrawal of the Southern congressmen at the outbreak of the Civil War, Grow was elected Speaker at the age of 37, and in that office pushed through the Homestead Act for which he had fought so long.

Recreation—Hunting

Susquehanna County enjoys excellent pheasant hunting, as well as better than average small game hunting of all sorts including rabbits, squirrels, grouse and raccoon. Turkeys are not too well established, but deer are plentiful. Four State Game Lands are found in the county—Number 35 near Hallstead comprising 7612 acres, Number 140 near Middletown Center comprising 1168 acres, Number 175 near New Milford comprising 736 acres and a portion of Number 70 near Melrose comprising 2495 acres.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stocked waters) include: Butler Creek, Brook Trout, Gibson, 3 mi.; Gaylord Creek, Brook Trout, Rushville, 7 mi.; Gibson Creek, Brook Trout, Gibson, 4 mi.; Harding Creek, Brook Trout, Herrick Centre, 4 mi.; Harmony Creek, Brown Trout, New Milford, 5 mi.; Lackawanna Creek, E. Br., Brook Trout, Herrick Centre, 5 mi.; Lackawanna Creek, W. Br., Brook Trout, Herrick Centre, 5 mi.; Nine Partners Creek, Brook Trout, Lenox, 4 mi.; Riley Creek, Brook Trout, Meshoppen, 3 mi.; Starrucca Creek, Brook, Brown and Rainbow Trout, Lanesboro, 10 mi.; Tunkhannock Creek, Brown and Rainbow Trout, Gelatt, 10 mi.; Tunkhannock Creek, E. Br., Brown Trout, Royal, 5 mi.; Comforts Pond, Black Bass, Comforts Pond, 60 acres; East Lake, Black Bass, New Milford, 35 acres; Big Elk Lake, Black Bass, Elk Lake, 84 acres; Fiddle Lake, Black Bass, Burnwood, 61 acres; Foust Lake, Black Bass, Fairdale, 46 acres; Fox Pond, Black Bass, Susquehanna, 25 acres; Laurel Lake, Black Bass, Lawsville Centre, 48 acres; Middle Lake, Black Bass, Harford, 40 acres; Montrose Lake, Black Bass, Montrose, 50 acres; Pages Pond, Black Bass, New Milford, 96 acres; Quaker Lake, Black Bass, Quaker Lake, 127 acres; Tingley Lake, Black Bass, Harford, 40 acres; Upper Lake, Black Bass, Harford, 45 acres; Wrighters Lake, Black Bass, Thompson, 90 acres.



Outdoor Reveries



By John H. Day

Fox Fire at Midnight

I PULLED the blankets up under my chin and drifted off into that delicious half-sleep which precedes the restful night. From the depths of a sleeping bag close by came the strangled rumble of professional snoring which threatened to shake down the rafters on each intake and subsided in a sort of hissing scream. A few struggling flames still flickered in the fireplace as midnight passed and a new notch moved up on the calendar of days.

There was restlessness in the bunk in the opposite corner of the log cabin and finally I was aware of a voice stating, "I believe I see some fox-fire down there by the creek."

There's only one thing to do at the mention of fox-fire and that's go find it. I pulled on a sweat shirt over my pajama coat and fumbled around in the dark for socks and knee boots. A slouch hat completed this weird ensemble and I groped my way out into the chill October night.

Sure enough, off there in the bottom toward the creek shimmered a pale column of uncanny phosphorescence. It seemed to weave and bob about in the light breeze and it certainly looked like the fox-fire which sometimes glows at night in punky, decaying stumps and snags.

Flood lights were burning farther up the hill, lighting up a portion of the camping area, but I could not locate any reflected beams which might be fooling us off there in the creek bottom.

We set a course directly on that awesome glow and plunged into the briars standing guard along the way. Those flimsy pajamas were all that stood between me and the briery facts of life. I don't recommend this costume for routine outdoor pursuits, particularly when there's a barbed wire fence to be negotiated.

The berry tangles by the roadside made sure that we started from

scratch. We finally cleared all obstacles and landed in the roadway below the cabin, to find that our "fox-fire" was a reflection from the floodlights via the metal trim on a parked car. The shining leaves in a tall sapling by the road had caught and reflected the eerie light, giving it an effect of depth and distance and ghostly motion.

I have seen the weird glowing of the big saffron mushroom known as the Jack-o'-Lantern, and have fished quiet eddies at night while the glow worms shimmered against the far bank. I hope some night to see the odd floating Will-o-the-wisp above an orchid bog. But I don't ever want to chase fake fox-fire again through the briery tangles at midnight clad only in pajamas and knee boots.

Even though the all-golden Indian Summer is almost upon us, the little folk of the wayside are now hard at work battening down the hatches in preparation for the cold dark days that lie ahead. This is twilight time in the timberlands, a twilight marked by luminous afterglow from flaming gum trees and flaring maples. High carnival days of color and pageantry are over for most of the wayside wildlings. From now on it's a race against time—a race to set seeds and mulch exposed roots before the shadow of the black angel of the frost death passes over the land.

The countryman on his weekly rounds through the thickets senses the quickening tempo on every hand. Some ageless instinct has warned the countryside that "it's later than you think," and the rush is on to complete another cycle in the rolling years. The immutable law of seedtime and harvest brooks no foolishness, no slow-downs when the assembly lines are set for the final run.

Yesterday while traversing a two-mile stretch of paved road I counted 17 woolly bear caterpillars scurrying across the roadway in search of suitable winter quarters. This "brown and furry, caterpillar in a hurry" is a common roadway companion nowadays. He has felt the October moving urge and is hurrying to find him a snug home for the winter.

Curled snugly beneath a bit of bark or some other convenient shelter the woolly fellow will sleep out the cold months, protected by his fur coat. Halt the next one you see rushing around and watch him curl up like a hedgehog, presenting a bundle of bristles to any aggressor be it hungry bird or curious human. Come Spring he'll wake up long enough for a few good meals and then will weave himself a woolly cocoon from which he will presently emerge as the beautiful Isabella tiger moth.

The belligerent white-faced hornets who built the tremendous Jack-o-lantern paper nest in the pear tree, are spending their last days in riotous living. Household cares are over, the sleek queens ready to face the rigorous days ahead. "Eat, drink and be merry, for tomorrow we die!" is the watchword for all the remainder of the tribe and their tippling in the grape arbors has been a scandalous thing.

When I took out the attic window screen a baker's dozen social wasps lay dead on the floor, while a dozen more clamored for one last flight in the October sunlight before the chill nights cut them down. That methodical daddy-long-legs I saw on the sun-warmed side of the house today will join his ancestors soon. He had spent a busy Summer pointing out the cows. Now the eggs are safely hidden against another year and he is free to go to his reward.

Everywhere the countryman sees evidence of the turning year. The chipmunk and the sloe-eyed deer mouse watch each other jealously as they labor in the beech groves, storing away the tiny nuts for future reference. Old Man Whistlepig tries to find room to stuff some more

clover into his grizzled hide. He's already so fat he can hardly waddle and one day soon he'll get too sleepy to stay above decks any longer.

I walked with a good friend one recent moonless night among the trees on the campus of a great university. There was a slight chill in the air, token that a newly-minted October was at the gates. We were high on the plateau heart of the mountain country, close against the bustling sky-lanes which span the continent



from north to south. As we strolled leisurely toward midnight an occasional confident call note came down from one of the thousands of tiny feathered voyagers cruising southward through the night.

When I was a lad delivering morning papers through the darkest hours just before the dawn, these same courageous notes lifted my heart in thrilling response. The countryman who watches during an October evening when a near-full moon rides among the stars can often see these tiny migrants etched against the light.

No man has probed the full depths of the mystery of these great migration flights. Some birds move only a few hundred miles; others span a continent. The obvious factors of food and warmth are in many cases secondary to other yet unknown requirements.

The countryman knows only that another chapter in a great epic of heroic courage is being written as the feathered armies wing southward along the fly-ways. Go out to some quiet upland one of these crisp clear nights—some place where the roar and contention of city traffic will not vex the peaceful countryside.

Stand there in the darkness, alerted to the night sounds of a land preparing for arrival of the Frost King. Suddenly will come a faint haunting cry from the darkness overhead, answered perhaps by an immediate response, as tiny "birds of a feather" keep their ranks intact while pressing ever southward through the sable vastness of the night.

I sat comfortably well hidden in the base of a hollow stub about half way up the woded hillside. From this vantage point I could look out through the big timber and down through the Autumn-hued undergrowth. Leaden skies closed in the ceiling, confining my woodland world to the few acres of October forest close about my hideout.

Here and there the clean gray bole of a tall beech stood proudly erect on the hillside. Robins were active in the tree tops, probably a last gathering of the clans before moving out some night for winter quarters farther south. I heard the white-breasted nuthatch, the chickadee and the little downy woodpecker at work in the neighborhood, and four or five crows passed over on a suspicious patrol, but did not catch sight of me.

Suddenly a light shower moved across the hill, motivated by a tiny breeze which did its best to call up reinforcements but failed. The forest bowed obediently to the rain, like a youngster holding up his face to be washed.

Amid the tiny explosions of great drops "splatting" into the leaf mulch I suddenly clapped my hands together to stir up some activity. The report echoed through the trees and

immediately roused a gray squirrel to righteous indignation. This bushy tailed fellow was well out of harm's way in a tall black maple and he slowly and deliberately read my pedigree in language only a squirrel can command.

Looking up through the stained glass "windows" of this woodland cathedral I could pick out the warm reds of the sour gum, the clear yellow of the tulip poplar and the beautifully tinted leaves of the hard maples. There was some scurrying about through the leaves behind me but I was too lazily content to peer around the edge of my kiosk to see what was going on.

The mysterious Mr. J. Frost is generally believed to be the artist who spreads the gorgeous flaming carpet across the Autumn hills. Actually he has very little to do with the spectacular display of colored leaves. The maple reds are a sort of diabetic symptom, the result of an accumulation of sugars in the leaves. Warm sunny Fall days are essential if the maples are to blush prettily.

The oaks flaunt reddish leaves as result of the accumulation of tannic acid, but their brilliance is also dependent upon the right combination of warm sunny days and crisp nights. There's a tremendous lesson in patience and humbleness and solid character to be learned from these glowing hills. Differences would surely resolve if men in high place could read this lesson together.

. . . *The End*

HOW TO SECURE AN ANTLERLESS DEER HUNTING LICENSE

Application forms for antlerless deer hunting licenses can be obtained from any County Treasurer, any hunting license issuing agent, the Pennsylvania Department of Revenue or the Pennsylvania Game Commission at Harrisburg, Pennsylvania.

To obtain an antlerless deer license, first secure your resident or nonresident hunting license, then submit a completed application and the fee of $1.10 to either the County Treasurer *in the county in which you intend to hunt* or to the Department of Revenue, Room 304, Finance Building, Harrisburg, Pennsylvania, *naming the county for which license is desired.*

The antlerless season is December 14 and 15 only. Licenses are not transferable, valid only in the county for which issued, and are void if the holder kills a deer during either the regular buck season or the special archery season.

Although there are three separate deer seasons this year, each hunter is permitted to kill *only one deer* during the combined seasons.





PENNSYLVANIA WEEK

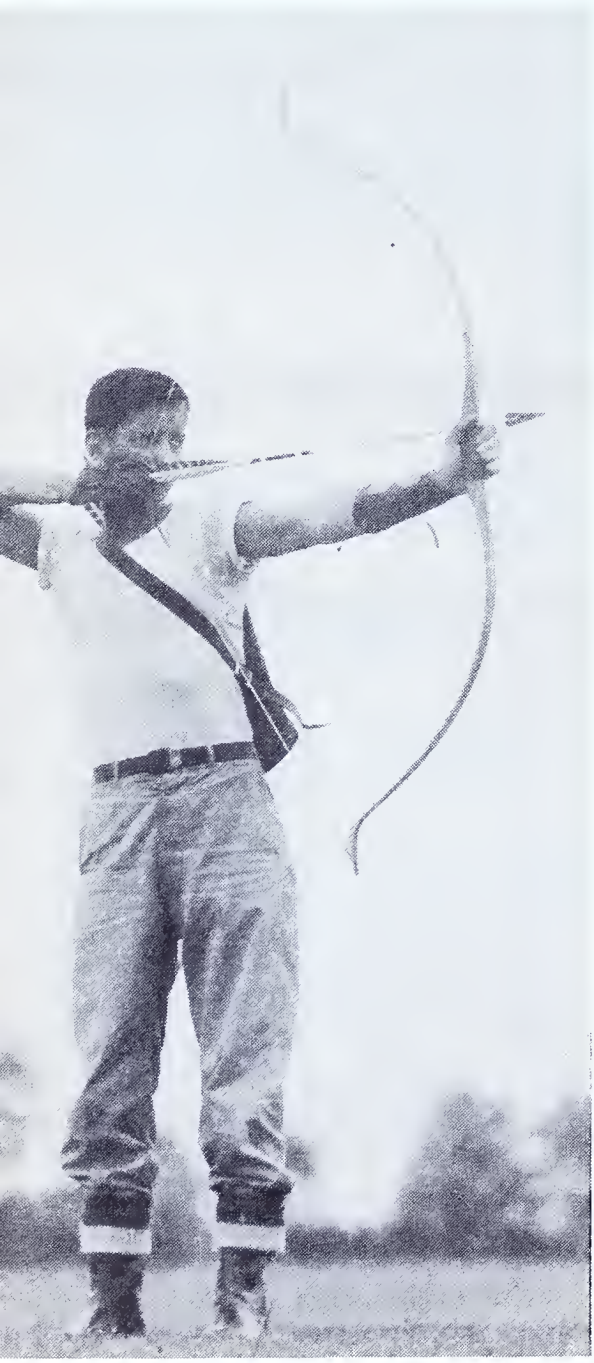
OCT. 15-21

During the week of October 15-21, which Governor Fine set aside as PENNSYLVANIA WEEK, attention will be focused on the industrial, educational and historical importance of our Commonwealth. One of the state's most outstanding attributes, its vast and varied outdoor wealth, should not be overlooked. Pennsylvania's unsurpassed scenic beauty and the abundance of its wildlife combine to make it truly a paradise for sportsmen and nature lovers. With continued cooperation from hunters and landowners, obedience to the game laws, and the advancement of the principles of good sportsmanship, the heartwarming joys of good hunting, good dog work, and good companionship in the field will not be lost to future generations of Pennsylvanians.

The Bow

A Sportsman's Weapon

I HAD to see it to believe it. At twenty paces my favorite deer rifle failed to send a bullet through a sack of sand, but my archer friend drove four broadhead hunting arrows through it in rapid succession. Subsequent experiments further verified the penetrating ability of the bow hunter's "ammunition." Bullets fired by my .30-06 went to pieces on impact with the sand-filled grass seed bag, and the slower .38-40 penetrated only a trifle deeper. Meanwhile, the broadheads continued to zip through the bag with ease.



I was impressed, to say the least. The little demonstration revolutionized my ideas on archery that had been formulated on the children's sets which I had seen in department stores at Christmas time. I knew now that the bow was an efficient weapon, not a plaything.

The bow was mans chief weapon down through the ages until the invention of the firearms. With the bow man hunted for food and protected himself from his enemies. The great military nations of the past gained their ascendency through the ability of their archers. Over eight hundred years ago the Mongol horde was turned back into Asia by the longbow. William of Normandy conquered England by defeating Harold, the Saxon King at the battle of Hastings in 1066. His Norman Archers broke the Saxon line of battle by aiming high in the air and dropping their arrows behind the Saxon wall of shields. Harold the Saxon King was shot through the eye and killed.

With the advent of firearms the use of the bow in English warfare rapidly declined and although it was enjoyed widely as a sport during the middle ages there is today not a single example of the famous English long bow in existence.

Primitive peoples still use the bow as their chief weapon and the American Indian was adept in its use although his bow was far inferior to the weapons in use today. Feats of which the legendary Robin Hood

would have been proud are performed everyday by the modern archer whose tackle and equipment has so improved in the past twenty years that records are no sooner established than they are broken. At the sixty-sixth National Archery Association Tournament held at Lancaster, Pennsylvania in 1950, Irving Baker shot an arrow six hundred and two and a third yards, which is considerably over a quarter of a mile.



PGC Photos by Cady

In order to permit competition between individual and groups of archers the modern sport has been standardized so that the relative standing of any archer can be compared with his brother archers throughout the United States. The two principal types of events are the Target Tournament and the Field Roving Shoot. Both events have the dual purpose of providing competitive sport and providing the archer with the necessary skill to deliver an arrow to the mark, a prerequisite for a successful hunting trip with the bow.

Hunting big game with the bow is rapidly gaining popular support from former gun hunters who had laid aside their guns in favor of the broadhead. They have found that all their hunting skill is required to get them within killing distance of a deer and they have experienced greater thrills in hunting with the bow. Special seasons for archers only have provided the hunter with additional days and weeks to roam the woods and fields of his favorite hunting range. Twenty states, including Pennsylvania, Wisconsin, Michigan, New Jersey, New York, and Maryland have established by law regulation, or both, special seasons for hunting deer in advance of the regular season. In Wisconsin, where a special pre-season has been in effect for several years, 15,000 permits were issued in 1950 for the 45-day period during which deer could be legally killed with the bow. Three hundred and eighty-one deer were killed. In Michigan fifty-three per cent of the hunters who took out the special license to hunt deer with a bow were former gun hunters.

Under the provisions of the law

enacted by the Pennsylvania Legislature this year the Game Commission has set October 15 to October 27 inclusive, Sunday excepted, as the period in which deer may be legally killed in Pennsylvania with the bow. During this season male deer with two or more points to one antler may be legally killed by residents and non-residents who have purchased a regular hunting license, and in addition a combined archery license and archery preserve permit costing two dollars ($2.00).

In these days of soaring prices the archer is in a very enviable position compared to the gunner. The expenditure of $20.00 (twenty dollars) will provide an outfit adequate to carry into the hunting field. Moderate priced bows are made of hickory or lemonwood and should have a drawing weight of approximately 45 pounds. This weight will provide ample power for the beginner's hunting bow and skill in its use should be acquired before the opening of the hunting season. Don't forget—an arrow that can penetrate a sandbag certainly has enough stuff to bring down a deer. But you must do your part. Practice until you can put that arrow where it will do the most good. . . . *The End*

TIPS FOR THE BOW HUNTER

It is illegal to use a cross bow.

It is illegal to use an arrow with an explosive tip or shaft.

It is illegal to carry a firearm of any kind including a registered side arm while hunting deer during the exclusive Bow and Arrow Season, October 15 to 27, inclusive.

It is illegal to hunt with bow and arrow for deer before 9 a. m. on October 15th, or on Sunday, October 21.

There is no maximum or minimum pulling weight set for bows, and both barbed and barbless broadhead arrows of any dimensions are legal.

Please cooperate by reporting your kill promptly to the Game Commission on the card provided with your hunting license.

MULBERRY IS TOPS AS SUMMER GAME FOOD

Harold E. Russel, a Perry County game protector says that in his opinion mulberries make one of the best early and mid-summer foods for wild life.

He backs his observation with this story: "At the rear of our house, near Blain, are two mulberry trees. Almost every year they produce a large crop of berries. From the time the fruit starts to ripen we entertain woodchucks, squirrels, grouse, deer, and rabbits, which feed on it.

"The last day of July there were a few berries remaining on the trees. On that date I counted 20 gray squirrels, one deer, one grouse, and one woodchuck feeding there. The 'chuck was pretty cute. He waited on the ground for berries that fell as the squirrels cut them."

A Game Lands Visit

By Grace O. Beach



EVERY once in awhile cooking, washing dishes and regular household routines can become deadly monotonous at times, even for a modern Diana who has her thrilling days afield. There are stretches of time when we seem to have become stifled or bogged down. Then all of a sudden a pleasant interlude turns up to dig us out of our routine and gives us a fresh start.

Your editor was in such a mood one evening recently, and definitely in need of a fresh outlook. The feeling must have taken hold of the man of the house for he looked up from his evening paper and said: "You know, Pardner, we need a day out in the open—I think it would do us both good. Now, here is something interesting we might do," and he proceeded to read the following paragraph from the evening paper. "The Pennsylvania Game Commission has issued an invitation to Sportsmen and others to visit the Game Lands and see the progress being made in food and cover work—new plantings and other unusual projects. Learn first hand what is being done to improve wildlife habitat in the interest of better sport and conservation. Contact your local Game Protector for information if you would like to visit these lands."

"Let's call our local Game Protector and see if we can arrange a visit. If we can, let's take our lunch and dinner and we can eat out in the open and make a real day of it." The call was put through and the Protector arranged for the trip. Right then and there the monotony ceased to exist, and the whole world brightened.

The following Saturday morning bright and early, we took off with camera and high spirits.

We met the Protector at the appointed place and started through the Game Lands. As we drove along the woodland road he explained the program being carried out on the public hunting grounds and some of the work being done to improve the protective cover and supply food for the various species of game that make their home in the woodlands.

The roads through the game lands are maintained by the Commission. They are dirt roads, which provide a means for the hunter to penetrate the lands so that he does not need to walk so far and also permits a more even distribution of the hunters during the peak of seasons. These roads also provide for the transportation of heavy duty equipment needed in carrying on the work.

After we had gone some distance we parked the car and walked for a distance, coming out on a cleared space. Here a field of buckwheat had been planted. There was still some few late blossoms to be seen, but the grain was already turning brown, and it looked like an excellent stand. The Protector explained that this particular species was called merino buckwheat, and pointed out the fact that it was a branching type with several heads to a stalk instead of the straight slender stalk with single head we usually see. This buckwheat, when ripe would produce excellent food particularly for turkeys, grouse and quail and other forest animals. We

also learned that around the edge of this large field, release cutting had been made, allowing the sun to penetrate through the forest canopy. This release permitted low food bearing shrubs such as blackberry, poke berry, wild grape and others to grow and produce other additional natural foods to grow. This tangled mat also provided game excellent escape from their enemies.

As we walked along the edge examining the various species of shrubs, the Protector pointed out some tracks just ahead of us, showing that turkeys were already visiting this food plot. One set of marks was large and deep, probably a nice big heavy tom that some lucky hunter may get as a prize for his Thanksgiving Dinner.

Then we went back to the car and drove to another section of the land. Here the land utilization men had cut zig-zag strips through the woods and this was planted in alfalfa this year in crop rotation following good soil building and conservation practices. This would be good food for deer. The zig-zag plantings give protection and safety to the deer when they are feeding on the cleared plots as no long stretch of feeding area is in open view of the hunters. The alfalfa also makes good nesting areas and hiding places for small game.

From this planting we drove on into another area where a sizeable open field on a hillside had been planted to corn. And what corn it was! It towered over our heads and the ears were huge. The Protector pulled back the husk showing how well filled out the ears were.

Some of this corn would be harvested, we were told, and used for winter feeding at regular feeding stations established on the game lands. The balance would be left standing to supply forage food and grain for all sorts of game animals.

That this was already a popular spot, could be readily seen from the various tracks on the ground. At one place we could see where a coon had been a recent visitor as had turkey and deer.

On this particular game land is a nursery where they grow food bearing shrubs and multiflora roses for use on edge plantings and various places on the game lands. Long beds with slotted roofs held hundreds of husky, healthy looking multiflora rose bushes that would be ready for transplanting into a border under which in the future game would seek safety and from which they would garner the hips as an added succulent morsel in their diet. Song birds also benefit greatly from this and many of the other plantings. We were shown a woodland area where some checker cutting had recently been done. Here they cut the timber out of one place, leave an area of about equal size uncut and then cut another, checkering it over the area to be cut. This provides varied living, feeding and cover areas.

In still another section we were shown how selective cutting is done. Removing only harvestable timber for market opens the overhead canopy so the sun can penetrate, permitting new growth to spring up on the forest floor as browse for deer and giving light and room for young trees to develop.

Another way of providing food for turkeys is by felling undesirable trees and planting cuttings of wild grape around them. Eventually the wild grape takes over, forming a solid mat-like canopy. Under this mat is perfect cover, and turkeys and other birds have a feast when the grapes hang purple and drop to the ground after the first frost.

We learned a little about how much there is to game and land management that is not known to the average hunter. Most of us roam

about through the woods, little dreaming that many hours of labor went into that tangled mass of grape vines or that hedge of food-bearing shrubs and areas of almost impenetrable briars.

The Protector was most courteous and explained the program in detail, pointing out many things to us, and willingly answering our questions. Finally we arrived back at our starting point and thanked our guide for a most interesting and informative trip, and started on our way back home.

Supper in the Open

We found a nice shady spot along the road home and stopped to have our supper. We had taken along a small gasoline stove, and one of those insulated food cases. In the case we had a container of sliced boiled potatoes, hamburgers made ready to fry with a square of waxed paper between each hamburger and all wrapped in waxed paper for protection. We like the fixings with our hamburgers so we had some finely chopped onion in a small plastic box, and some sliced dill pickle strips in another. Tomatoes and celery rounded out the supply, except for a plastic zipper bag which held buns, a container of butter, and in those wedge-shaped plastic boxes nested a piece of fresh apple pie, uncrushed and tempting to a pair of hungry people. Everything was cold and fresh, for we had laid an ice bag filled with ice on the top before we zippered down the lid on our food case.

The following supplies are kept in another zippered bag; a plastic tablecloth, a small plastic zipper case in which are small plastic knives, forks and spoons; a bottle-can opener-corkscrew combination gadget; a small paring knife and a tablespoon; salt and pepper shakers and a square box with sugar cubes. There are also plastic plates, cups and glasses, (the kind that are pliable but not breakable), a medium skillet and usually a small pan. These new plastics are marvelous and play a very important part in our lives.

The third kit holds two thermos bottles, one filled with water, the other with coffee.

These three kits are very handy, easy to handle and the equipment is kept together at all times and always ready for any trip.

The gasoline stove was lighted and the hamburgers were popped into a hot skillet in which some of our butter supply was already bubbling. Nicely browned, they were lifted out onto the buttered buns and the potatoes were put into the pan. Everything assembled and the fixings put into our hamburgers the potatoes were ready and we really did justice to a supper in the open that far surpassed the finest banquet. Eating out in the open does something to food.

Here is a recipe for a real day outdoors for you and your buddy. The Game Commission has invited you to visit their game lands and see what they are doing. Maybe you haven't joined your husband on some of his hunting trips afield, nevertheless you'll see much of interest and so will he.

When either of you buy a hunting license $1.25 of that license fee is set aside for food and cover. Its fine to see what that money had done and is doing for preserving wildlife and providing better sport.

The recipe for the food you'll find good, too, and when you come back home, dishwashing, cooking and the myriad of other tasks won't look nearly so humdrum, you'll have a fresh start.

Don't be surprised if the man in the family starts looking over his hunting equipment the next day or so, and if you're Diana, you'll be doing the same thing.

. . . *The End*

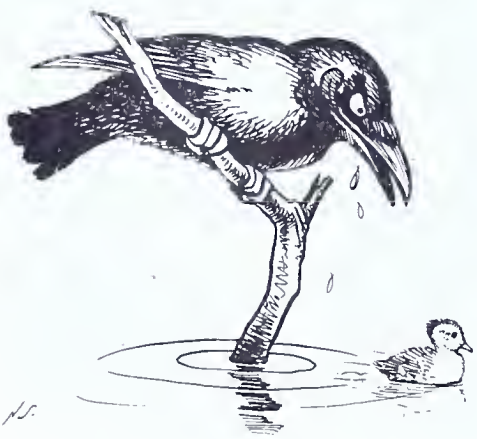


Practice Run

WILLIAMSPORT—On August 29 I released a crate of twelve pheasants and they flew into a corn field. I observed a bird flying with the pheasants that did not look like one of them, and discovered that it was a Cooper's hawk. It was following one of the pheasants, but when the pheasant landed in the cornfield it did not follow it down, but landed in a nearby tree. District Game Protector Paul Ranck, Williamsport.

More Crow Depredations

LIGONIER—Varied and new depredations by crows seem to be commonplace. I was told a story by a fisherman to the effect that he observed a trio of crows disturbing a mallard duck and her brood. The crows scattered the brood, driving some of the young ducks to land, then killing some of the very young ducklings. The fisherman on the opposite shore was helpless to do anything but throw stones—which did not seem to bother the black killers. Conservation Education Assistant Robert D. Parlaman, Ligonier.



Killer vs. Killer

MEHOOPANY—While repairing a road in Potter County, Charles Gratton, a highway crew foreman, and several of his crew noticed a large grayish hawk making determined swoops at the ground. After the fourth dive Gratton walked over to the place and found the hawk trying to make off with a large rattlesnake. The snake proved too big for the hawk and it flew away. The head of the rattler was neatly severed from the body. From the description of the bird it might have been a goshawk. District Game Protector Keith C. Hinman, Mehoopany.

Weasel Takes To The Trees

SOMERSET—On July 21 I observed a disturbance in a large wild cherry tree and then two small animals either fell or jumped about 30 feet to the ground. When they crossed the road it turned out to be a weasel pursuing a red squirrel. The chase continued up another tree and then through a tile and into some high weeds, where I heard the squirrel squeal. The weasel had evidently made a kill. District Game Protector E. W. Cox, Somerset.

He Who Laughs Last

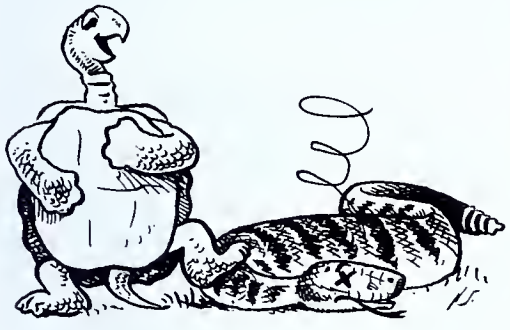
WILCOX—My son reports that while visiting his predator traps he found a red fox in one that was staked fast, and he flushed five grouse within fifteen feet of the trap, in plain view of the trapped fox. District Game Protector Vern A. Van Order, Wilcox.

Rabies in Sullivan County

LAPORTE—In the immediate vicinity of Sullivan County we are having an outbreak of rabies. At the present time we have been able to secure two specimens of wildlife that had positive rabies, one raccoon and one grey fox. Along with those, specimens of dogs and cattle had the disease and were lost by the farmers in Sullivan County. District Game Protector Robert K. Benscoter, Laporte.

Rattler Meets His Master

MIDDLEBURG—In the early part of June Mr. Miles R. Crebs, line superintendent for the Middlecreek



Valley Telephone Company was checking some lines and found a rattlesnake about 30 inches long that had just been killed by a large land turtle. The turtle had caught the rattler back of the head and had pinched it badly over the neck. He was still holding the snake in that position when found by Mr. Crebs. There had been quite a struggle according to the markings on the dusty road. District Game Protector Raymond Holtzapple, Middleburg.

Food Plots Really Producing

BENTON—During the month of August approximately 170 bushels of wheat and approximately 140 bushels of rye were combined from approximately 27 acres of food plots on State Game Lands No. 13. These food plots were newly cleared a year ago. Besides the grain that was harvested a narrow strip all around the edges of the plots was allowed to remain standing for turkey feed. One evening in late April I counted more than sixty deer eating in these same food plots. District Game Protector Razell A. Stidd, Benton.

Corn-fed Bears

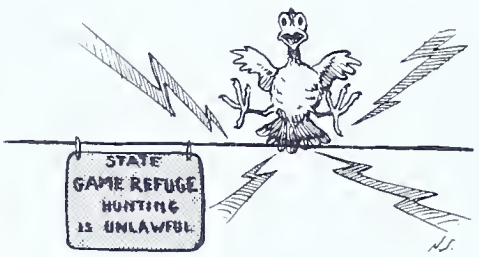
WILLIAMSPORT—Am having lots of bear damage complaints—more this year than in the past several years. There are plenty of apples and some cherries and blackberries, and the scrub oak has loads of acorns. The dry weather has cut down the corn crop and the bears are taking the best corn. They are working the corn fields on Game Lands, which is of some help to the farmer. The largest amount of damage in this district is a 10 acre lot of soy beans damaged by deer. The same farmer had 18 acres of corn considerably damaged by bears. District Game Protector Levi R. Whippo, Williamsport.

Don't Leave Good Manners At Home

WILKES-BARRE—I noticed that the hunter is taking advantage of the farmer that is keeping his land open to public hunting. Recent cancellations of farms in the Game Commission's Farm Game Project reveals that the hunter is abusing the land of the farmer as well as his own right to have a place to hunt. Practicing a few lessons in hunting etiquette would be a credit to the hunter. Not asking permission to hunt, parking in a lane where the farmer cannot get by and tramping down the farmer's unharvested corn are just a few of the unpardonable sins. District Game Protector John C. Behel, Wilkes-Barre.

Tip on Self Preservation

ST. THOMAS—Probably one of the best places to avoid during a thunder storm when caught out in the woods, would be our refuge lines. We see evidence of their being struck pretty often. This year we noticed on 503-A and 503-D where one of the bolts had struck and followed the wire for at least a mile on each refuge. The one on 503-D killed six



good-sized oak trees to which the wire was fastened and in addition killed all the leaves and branches of trees and brush within one foot of the wire. District Game Protector Edward Campbell, St. Thomas.

Bob-White on the Increase

WASHINGTON—During the spring and early summer few quail were heard or seen, but now there seems to be quail calling everywhere. The broods that I have seen are big ones—fifteen to twenty birds—and I have seen two and three broods in one hay field. They came through the winter one hundred percent better than I ever hoped for and I have observed quail in areas that have not been stocked with quail in the past three years. District Game Protector G. T. Church, Washington.

Too Many "Rats"

MT. HOLLY SPRINGS—The closed season on muskrats has resulted in a remarkable increase in these furbearers in this district. I have received many complaints of muskrat damage done to field corn, farm ponds, springs, and in one case last spring they got into a farmer's barn and destroyed his apples. In a number of places they have completely destroyed as much as 1½ acres of standing corn. District Game Protector John R. Spahr, Mt. Holly Springs.

Late-comers

WEATHERLY—While assisting Game Protector Ramsey on August 27 we observed a ringneck hen on Farm Game Project No. 179 with a brood of week-old chicks. This was an extremely late hatch but the brood seemed healthy enough. District Game Protector Glenn A. Kitchen, Weatherly.

Fox Has His Hands Full

WHATON—During the past month Bert Williams, of Whaton, told me that he was sitting on his porch watching a large turkey feeding in a field across First Fork. A gray fox stalked it and succeeded in catching it twice but each time it managed to get away. At last it was able to get into the air and flew into



the woods. It did not seem to be any the worse for the encounter except for the loss of some feathers. District Game Protector William D. Neely, Austin.

The Semi-Automatic Shotgun

By Ed Shearer

THE crisp mornings of October are with us again. The birds have begun their annual trek to warmer climes, and the dyed-in-the-wool hunter has been working his dogs on game for the past month. The bird dogs and the hounds have abandoned their lethergetic flea-hunting tactics and have acquired that alert pose that is the hall mark of all good hunting dogs when they sense that serious business is close at hand.

This year will see something new in Pennsylvania's game fields. The semi-automatic shotgun. For the first time the bars have been let down in a state that has banned the semi-automatic from the start.

As a good portion of Pennsylvania's shooters have had little experience with this type gun we will take a look at the available models, their manner of functioning and some of their good and bad points.

The first and still the best semi-automatic was the invention of that wizard of the gun world, John M. Browning. Browning, becoming impatient with domestic arms manufacturers, took his gun to Belgium where the Fabrique Nationale D'Arms de Guerre of Belgium had been making his original automatic pistol since 1900. Here his gun was well received and in 1903 the first semi-automatic shotgun, the Browning, was placed on the Belgian market. The American manufacturing rights were sold to Remington who began production on the same gun in 1905.



In the intervening years several foreign versions of the semi-automatic shotgun have appeared, but were mostly short-lived and few reached the American market. Other American firms have brought out close copies of the Browning since the patent rights have expired.

Winchester brought out their 1911 model after long experimentation. Later they streamlined it in their model 40. This gun could never compete with the much better Browning type and was discontinued by Winchester some years ago.

In semi-automatic shotgun actions the shot shells with their paper cases presented an obstacle in obtaining satisfactory feeding and extracting performance. As all shells expanded at the moment of explosion, unlike the brass, the paper shot shells were slow to return to their normal proportions. Thus caused hang-ups.

Browning got around this by having the barrel and breach block recoil together for the full distance of the travel of the block. Thus he allowed for longest possible time for the case to return to normal size before any attempt was made to extract it from the chamber. This type of action is known as the long recoil system and due to the above features has survived while other types of semi-automatics have practically disappeared.

One disadvantage of the long recoil system was the large box-like receiver that made the weight of the older models excessive. Another undesirable feature of the long recoil system is the jar of the breech block going back to firing position. This delays recovery from recoil and as a

result cuts down speed of effective fire.

In recent years there has been considerable refinement of the semi-automatics. The cumbersome receiver housing has been done away with and the gun has been streamlined to the slide action repeating shotgun. This has made possible substantial weight reduction, consequently light weight models have made their appearance in all available makes. As a result the recent semi-automatics are far better upland guns than the old, heavy models.

There are three makes of semi-automatics available to the sportsmen at the present time. The first we will discuss is the Browning, still of Belgian manufacture, although I understand it will be serviced at the Browning plant in St. Louis, Mo. This model still retains the large receiver housing. It will be well to note that opinion is divided among the shooters as to the advantages of the streamlined versions of the semi-automatics—many contend that the square contour of the old receiver is a great aid in aligning the gun. The standard model with 28 inch barrel, tips the scales at 8 pounds. There is a light weight model that weighs 7½ pounds as well as a model called "Sweet 16" in 16 gauge that goes just 6¾ pounds. I can state that this is truly a sweet handling gun; the Browning is a time-tried, thoroughly reliable semi-automatic.

Savage Arms company put out two models, 775 and 755, both of which are streamlined versions of the long recoil type action. The model 755 with a 28 inch barrel in 12 gauge weighs 8¼ pounds. The 16 gauge runs ½ a pound lighter. The model 775 is the light weight model having a receiver housing made of light-weight alloy and weighs just 6¾ pounds. Like all semi-automatics in use today they have friction ring adjustment for light or heavy loads. The Savage in both models may be equipped with either the Cutts Compensator or the Poly Choke. I have never shot this model but the manufacturer's reputation is good.

Remington has hit the jack pot in the semi-automatic field with their Sportsman 58. This gun has a receiver that follows closely the lines of their model 31 and the Winchester model 12 pump action guns. In the redesigned action the use of new steels and stamping has not only cut the weight but has moved the point of balance to the rear, making it a much faster pointing gun than the old model. The redesigned fore-end and stock make the most of this better balance, and the result is one of the fastest pointing guns on the market.

I had one of these guns made up for a Cuban Doctor for shooting quail in the thick growth of Cuba. I ordered the barrel 24 inches long including the Poly Choke. I gave it quite a workout, adjusting the choke and load before the Doctor took it to Cuba. Set at improved cylinder it gave beautiful even patterns at from 15 to 25 yards with Remington skeet loads, and was the fastest handling gun I ever shot. For quail, woodcock and grouse it would be hard to equal for those who like a single barrel gun.

For the more open field shooting where the ranges were around 40 yards, the short barrel made accurate pointing a little difficult, although it had killed patterns much farther. This gun made quite a stir in Cuba where there is no bag limit and they bet on the size of the kill.

The fore-ends and stock are machine checked by a special Remington process. The wood in the stocks and fore-ends that I have seen are of good quality walnut and well seasoned. The fore-ends have a new steel insert which helps to prevent splitting and battering from recoil. There is an enlarging safety button, a knurled coin slotted magazine cap to make dismounting easier. The

streamlined dural trigger guard not only looks better but makes the gun carry and handle better in the field. The modern tendency of using stampings where possible to reduce weight and cost is apparent in this gun, but it in no way detracts from the strength of the action. The standard gun with a 28 inch barrel weighs about 7¼ pounds. The 16 gauge runs 6½ pounds. The 20 gauge tips the beam at only 6¼ pounds. Remington has eliminated much of the breech block jolt in this model and recoil is also reduced materially.

This is the assortment of semi-automatic guns available at the present time. I did not anticipate a big rush to buy automatic shotguns and a check of several large sporting goods stores bears this out. Game is killed with the shots that hit, and as far as speed of fire is concerned the pump gun can be fired just as fast effectively, and the double even faster for two shots.

So buy a semi-automatic if it looks good to you, but don't buy the idea that you can spray 'em down. You've still got to hit 'em.

. . . *The End*

MAKE-DO'S AND SUBSTITUTES —SAFE AND UNSAFE

By Dr. Henry M. Stebbins

Hand-loaded Ammunition

Here we can have fun, economy, the right load for the job, and often keep shooting when supplies are scanty. But knowledge and constant care are essential.

Heavy loads safe in one rifle may be dangerous in another of the same caliber but with smaller groove or bore diameter, rough, rusted barrel, greater chamber length or headspace, or even a closer throat into which the bullet of a chambered cartridge fits. And the other rifle may be of less sound material or design.

FFFG black powder is fine grained and fast burning, FFG is medium, FG is coarse and slower. To use FFFG instead of FG in a .38-55 or .45-70, for example, calls for a cut in charge by from 4 to 6 grains weight. Substitutes with smokeless are not so easy. Best use recommended charges and weight each "maximum" load. Be sure that bullet weight, diameter, toughness, and bearing length aren't above standard. Brass cases thicker than standard decrease powder space and raise pressures beyond the proportionate extra strength of such brass.

Substitute brass, sometimes altered in shape or length, can be useful: .32 Winchester Self-loading for the old but good .32-44 S&W revolver, .35 or .351 W.S.L. for .38 Special, etc. Always consider the thickness and quality of substitute brass.

Pistol primers can be used for some rifle loads but don't ignite all rifle powders properly. They are too thin to stand high pressure without grave danger of puncturing and shooting hot gas back through the rifle, and they are risky in tubular magazines crammed full of cartridges.

Government .30 caliber rifle primers are corrosive but do not harm brass for reloading. Bore cleaning with a brass brush and water or ammonia is easy. Mercuric primers, now rare, make brass brittle and unsafe to reload, particularly in bottle-necked cases.

Filing or drilling the points of army bullets to make them expand can easily be excessive. If the lead is shot out of the bullet jacket and the jacket sticks in the bore, the next bullet fired through that partly plugged barrel swells or bursts it, and the rifle action and shooter may share in the calamity. About a 1/32 inch hole, 1/16 inch deep, is far enough to go. Best substitute factory or custom made hunting bullets of equal or smaller diameter and weight.

(*More of These Next Month*)



GOVERNOR SETS DATES FOR HUNT SAFELY WEEK

In a statement made public October 1, Governor John S. Fine said:

"In proclaiming October 22d to 27th inclusive as Hunt Safely Week in this Commonwealth, I am mindful of the great responsibility in preventing shooting accidents and saving human lives. The sport of hunting as a recreation is a wonderful tonic for both health and happiness when safely pursued; but no piece of game is worth the risk of being shot or the loss of an eye, an arm, a leg, or a life.

"Last hunting season 16 people were killed and 449 were injured in Pennsylvania by shooting mishaps.



Governor Fine

Many of these casualties occurred through inexperience, lack of knowledge, and carelessness in the handling of firearms. The beginner and novice should first become schooled in the safe handling of his gun and later learn the technique of hunting. For your protection, wear bright red or some other distinctive coloring when hunting. Don't be indifferent to your own safety or that of the other person. A moment of carelessness can result in a life of sorrow and regret.

"This appeal is for the safety of all, so play it safe, hunt carefully, don't rush, make sure of your target before you shoot, and keep your gun on safe or the hammer down until you are ready to shoot. Don't let your enthusiasm upset sound judgment.

"You owe it to yourself and the sport to Hunt Safely and Return Safely."

Would you like to know the age of your deer this year? Watch for details in the November issue!

Day-Old Pheasant Chick Rearing Program Increase

Last year the Game Commission distributed over 166,000 day-old ringneck chicks among sportsmen's organizations, Farm-Game Project cooperators, rabbit farm owners and farmers who leave their land open to hunting and who have the required equipment to rear the birds. Of these chicks, about 129,000 or 78% were raised to maturity in 1950. This was an increase of 3% over the percent-

age of those brought to releasing age by these sources in 1949.

This year, the 200,000 day-old chick goal set by the Commission was surpassed by more than 25,000.

In compliance with the present program, most of the hens reared by other than sportsmen's organizations will be retained in the Commission's holding pens, to be released next spring as brood stock.

In areas where the hen hold-over plan was in effect during the 1949-50 winter and where, in combination, large numbers of day-old chicks were reared and liberated last year, field checks showed a considerable increase in the number of pheasants taken by hunters in the 1950 season.

Refresher Courses at Ross Leffler School

Not only does the Game Commission's Ross Leffler School of Conservation provide training for newly-enrolled Student Officers who subsequently are absorbed in the Commission's regular field personnel, but it also gives in-service instruction in the form of Refresher Courses held periodically for salaried Game Protectors, a restricted number of Deputies, and Food and Cover Corps foremen.

Courses differ according to the needs of the various groups. Game Protectors are instructed in the application and enforcement of the latest Game Laws and are brought up to date on new Commission policies, as well as the most recently developed methods of game propogation, land utilization, and public relations. Deputies are given a course combining these subjects with a general review of all information necessary to promote wise conservation, aid in law enforcement and advance established Commission policies. Food and Cover Foremen are taught the latest improved methods of providing food and cover for wildlife.

The most recent of these Refresher Courses were held this past summer. Twenty-eight Game Protectors attended classes from June 3 to 9, twenty-seven from June 10 to 16, twenty-eight from June 17 to 23, twenty-seven from June 24 to 30, twenty-six from July 8 to 14, and twenty-eight from July 15 to 21.

Twenty-five deputies attended classes during the week of July 29 to August 4, and twenty-five from August 5 to 11.

From August 12 to 18 thirty Food and Cover Foremen received instruction.

In this manner the Commission makes certain that the most up-to-date conservation information and training will be reflected in better public service by their field employes.

NEW ANGLE ON SOUTHERN RINGNECKS

The long-standing mystery of why pheasants do not establish themselves in the wild in southern climes while the smaller and less aggressive quail does very nicely may have been solved by the Illinois Natural History Survey Division, according to the Wildlife Management Institute.

On the basis of experiments conducted to date, the answer may lie in the temperature of the eggs during the laying period. Pheasant eggs exposed to high temperatures showed a marked reduction in hatchability while quail eggs subjected to the same conditions showed none.



THOMAS A. MOISER

It is a tough job to write finis to the service of an old-timer whoever he may be. You hate to believe the time has come to remove his name from the roster. So it is with Tom Moiser, District Game Protector, Bellefonte, who resigned July 17, 1951, just 14 days prior to having reached the mandatory retirement age of 65.

Because of his enthusiasm, energy and boundless good humor, Tom endeared himself to all of his associates and to thousands of sportsmen whose cause he so courageously and efficiently championed. There are not enough superlative adjectives in our book to describe the fine job he did every day and every year since he first joined the staff—nearly thirty years ago.

Thirty years is a long time to be in the conservation saddle, but now he has hung it up, officially at least. Unofficially, you could no more take the zest and the challenge of law enforcement, or the love of the outdoors from him than you could his love of family, his devotion to duty or his service to the people. We wish his remaining years and those of his loved ones to be happy and peaceful years as we say so-long but not good-bye to a real veteran of a great cause.

ARE YOU GUILTY?

Have you ever fired at a piece of game that you knew was too far away for a reasonably certain kill, hoping for a stroke of luck to bring the bird or animal to bag? Did you ever submit to the temptation to throw a little lead at out-of-season game just to "see what would happen?"

Too many gunners are thoughtless, or just plain cruel, in this respect and no one will ever know the exact extent of the injuries, suffering and death caused by acts of this sort. Occasionally, however, the results are seen by human eyes and the cruelty of wanton shooting is revealed in all its ugliness. Several years ago Conservation Education Assistant Robert D. Parlaman, then a District Game Protector, witnessed the following incident, and his report is as follows:

"In company with another Game Protector, we were investigating a report of a buck deer that had been wounded, apparently by small shot from the shotgun of a thoughtless and heartless small game hunter. Our informant told us that the animal was blinded and quite helpless.

"Soon afterward we located the spot where the deer was last reported to have been seen and began our search of the area. Indications were that our efforts would soon bring results, for fresh signs told us that there had been quite a bit of activity thereabouts.

"I located him in a small clearing. His head was badly wounded and infection had set in. Finally he scented me and dashed towards the woods. But he fell and stumbled over everything in his path, until finally he hit a large tree with a resounding thud. He was a sorry sight trying to free himself from the low hanging branches.

"Then out of thin air an adult

doe appeared at the buck's side. She was very nervous and glanced my way every other second. She moved against the buck, nudging him in an effort to lead him to safety. As her devotion to her mate overcame her fear she would run some distance ahead of the buck, only to return to his side to repeat the performance. The buck realized her intentions too, for he would travel by her side a short distance, until he became entangled in the thuck brush.

"A single shot at close range soon put the suffering animal out of its misery, but I doubt that I'll ever forget that pitiful sight."

"Home-grown" Ducks For Keystone Hunters

A new Pennsylvania duck program has given waterfowl its rightful place in the state's wildlife management scheme, the Game Commission announces. While the waterfowl problem is largely a federal and international one, and the Commonwealth is not the duck state some others are for lack of flat, marsh areas, still it is believed there are things that can be done to better the situation for our duck hunters and the wildfowl program generally.

Early this summer, approximately 7,000 four to seven week-old ducklings —mallards and black duck and mallard crossbreeds—were released over the state, wherever there were suitable areas. These young waterfowl were liberated on beaver ponds, hidden marshes and other inaccessible spots far from humans who might feed and coddle them and so cause them to become undesirably tame.

All of the released ducklings were leg banded. Information on banded ducks taken by hunters should be forwarded to the Game Commission's Harrisburg office or to a District Game Protector. Such data is important to this program. Hunters who cooperate will be told where and when each bird in question was liberated.

The expectation is that here as elsewhere the stocked ducks that safely run the gauntlet of fall hunters will return to the areas where they were placed, there to rear families and increase our native population. Repeated over several years, the additional shooting provided Pennsylvania waterfowl hunters should be considerable.



Animal Lure Helps

By L. J. Kopp

WHAT is it? Animal lure is a liquid composed of glands, glandular secretions, etc., from various animals.

Throughout the United States there are approximately fifteen well-known and recognized manufacturers of animal lure. It may be helpful for the beginner to know that these lures are compounded and aged by highly experienced trappers. The compounding of lure is not simply a matter of mixing together a couple of odoriferous ingredients. Most of them are mixed in accordance with a specific, and often scientific formula.

For years, the use and value of animal lure has been a highly controversial subject among trappers. In most cases however the arguments do not reflect upon the general use of lure, but rather upon a certain type of lure. Consequently, many young trappers find themselves much confused, and have difficulty in deciding just which make or type of lure to purchase.

Another factor which adds to the confusion is the little-known fact that not all makes of lure will work in the same locality. For example, within the past few years I have been in close contact on this subject with Gene Hill, of Upper Darby, Pa., one of the State's leading fox trappers and President of the Pennsylvania Trappers' Association. We have found that there is a real difference of opinion among the fox population in our individual trapping areas. Lures which I find satisfactory in my section, do not work at all in southeastern Pennsylvania, and vice versa. From this it can be seen that a lure made in Eastern U. S. might possibly be of no help in your immediate area, while a lure made out West would work wonders. This, of course, is not generally true, and I am only saying it in order to give you a clear understanding of the fact that animals vary greatly in their likes and dislikes in different sections of the country.



In my opinion, you need only two types of fox lure in Pennsylvania. During the Fall, and up until freezing weather sets in, the proper type of lure to use is gland lure. Later, when freezing weather persists, the type to use is call lure. The main difference in these two lures is simply that the latter contains a very strong smelling animal musk, such as skunk musk, which does not lose its identity even during severe freezing temperatures. Therefore, when you want to buy fox lure, ask the manufacturer for either fall-type gland lure, or winter-type call lure.

The very best lure will not serve its purpose if improperly employed. Probably the first mistake that the beginner will make is that of using too much lure at a set. In most cases, the directions for using a particular brand of lure is printed on the jar or container. While it is always a good idea to follow such directions, it is equally true that they can be misinterpreted. For example: if the directions call for one to six drops to a set, it does not mean that the more you use, the better it will be. In normal fall weather, one or two drops are sufficient. After a catch has

been made, one drop will do. If, after the set has been lured, a heavy rain occurs, it will naturally be necessary to again use one or two drops.

It is well to remember that a fox will smell one tiny drop of lure just as soon as he will smell a whole jar full. Some expert trappers claim that only a trace of lure is better than a drop, and at any rate use it sparingly.

Another important point is not to use more than one brand of lure at one set. If you wish to use several brands of lure in the same locality, it is best to make several sets, and use a different lure at each set. This is a good way to determine which lure is most attractive to fox. You could for example, make four sets in a large field, about one hundred feet apart, and use a different lure at each set. The set which catches the most foxes during the season will tell you which of the four brands of lure is most attractive to the fox.

It might also be well to explain that even though some lures may smell almost identical, they should be used only for the animal for which it is intended. Don't use skunk lure at fox sets, or fox lure at skunk sets.

So far our discussion on lure has been concerned more or less with fox trapping. The reason for this is simply that I do not advocate the use of lure for all fur animals. In fact lure is practically worthless in trapping muskrats, skunks, and oppossum. You set traps for these animals where you find them, and it is not a question of calling them in from long distances. Many trappers do not advise the use of lure in mink trapping, for here too, you set your traps where the animals are found normally, and where there is no need to lure them.

Aside from the fox, coon, and weasel, lure is unnecessary. As a whole however, all animal lures are made and tested for the purpose of calling an animal to a specific spot, and that is exactly what it will do if properly used in conjunction with similarly made sets.

Since such lure will call an animal to any desired spot, it is often advantageous to the trapper who traps in sections where he might be troubled with trap thieves, or just common troublesome spectators.

For example, when making sets along small rivulets along the mountain for fox or coon, the animal can be lured away from the main line of travel along the waters edge. Sets can be made behind a stump, or clump of bushes where a casual passerby would seldom notice either the trap or a trapped animal.

If you wish to make coon sets in areas where dogs are known to roam about, a set can be made on top of a stump. Such a stump could be from two to three feet high, and preferably it should have a rotten top so that a bed can be dug on top of the stump for the trap. Bait and lure are placed to one side of the trap and covered lightly. A coon will smell this lure and will climb upon the stump to investigate. While moving about on the stump he will likely be caught. On the other hand, a dog seldom, if at all, will climb upon a stump, but instead will stand up on his hind legs merely to satisfy his curiosity. His front feet will be placed on the edge of the stump and there is little danger that he will be caught.

For those who have never used animal lure, or are in doubt as to its value, remember, it is not a new magic medicine to rob you of your money. Instead it is a very well-known trapping essential, accepted by trappers as a standard item along the trapline. Above all, remember that its purpose is to lure an animal, but that your trap must catch it. Don't expect it to do more than its share.

. . . *The End*

Scoring and Classification of Archers

By Thomas A. Forbes

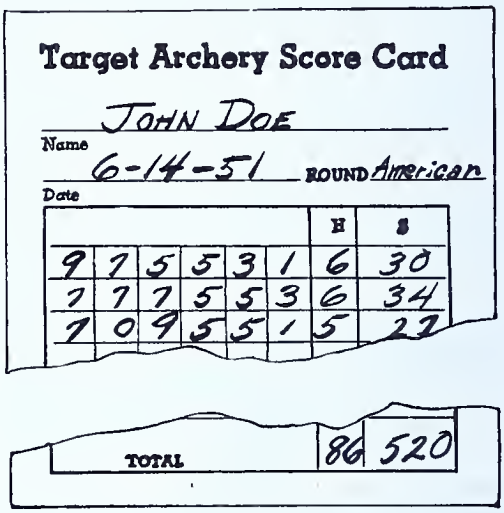
TOURNAMENTS are conducted under rules and regulations promulgated by the National Archery Association and the National Field Archery Association. The former is the governing body for target tournaments and the latter prescribes the rules and regulations for field archers.

Although there are two national parent bodies field archers who use a high anchor and the Instinctive or Free Style method of shooting are quite capable of shooting a double American Round on the target line and turning in a card of 600 or better. The Pennsylvania State Archery Association, Inc., sponsors an annual state-wide Target Championship Tournament and also an annual state-wide Field Championship Tournament. The former was held at State College, Pennsylvania, over the Labor Day week end and the latter is scheduled to be held at Sky Haven, eleven miles North of Clearfield, Pennsylvania, on October the 6th and 7th.

In order to provide competition at all stages from Beginner to Expert, archers are classified according to the degree of ability which they have attained. As their scores improve they are reclassified accordingly.

Tournament scores are the basis used to classify archers and a central classification list is maintained by the Pennsylvania State Archery Association. The Secretary of each club sends the score of each of the participants




Target Archery Score Card

Name JOHN DOE

Date 6-14-51 ROUND American

						H	S
9	7	5	5	3	1	6	30
7	7	7	5	5	3	6	34
7	0	9	5	5	1	5	27

TOTAL 86 520

fig. 9

in a tournament to the executive secretary and archers are reclassified as their tournament scores improve. An archer is automatically placed in a higher classification on the basis of the improvement in his or her score. If, however, an archer is no longer able to shoot a score within his or her classification, the archer may upon written request to the Executive Secretary of the Pennsylvania State Archery Association be reclassified in a lower class so that the archer may compete with other archers whose scores are comparable.

Classification

Archers secure their initial classification by competing in an official tournament which they enter as Unclassified and shooting a score of 600 or better in a double American Round. A target archer is required to shoot a double American Round and a field archer a double Field Roving Round totalling 28 targets in order to be classified.

Target Archers Classification

Class	Men	Women
AA	1300 and over	1200 and over
A	1200 to 1299	1100 to 1199
B	1050 to 1199	950 to 1099
C	900 to 1049	800 to 949
D	600 to 899	500 to 799

Field Archers Classification

Men

Class	Average 28 target score
Expert Bowman—Class A	300 and over
Expert Bowman—Class B	230-299 incl.
Bowman	160-229 incl.
Archer	90-159 incl.
Novice	89 and under

Women

	Average 28 target score
Expert Bowman Class	190 and over
Bowman Class	130-189 incl.
Archer Class	60-129 incl.
Novice Class	59 and under

The Average Score in the last table is defined as the average of the three highest of the archers four most recent 28-target scores. These scores in Field Archery may be shot in practice or tournament. If they are shot in practice they must have been shot with at least one other archer as a witness. The scores used in competing the average score must have been shot within the past 90 days.

Scoring

In a target tournament four archers are assigned to each target in the order of their registration for the tournament. By custom the first archer assigned to a target is designated the target captain. Numbers 2 and 3 are score keepers and number 4 has the duty of retrieving arrows which miss the target.

The target captain orders the shooting at his target and decides all local questions. His decisions may be appealed to the field captain who has overall charge of the tournament and whose decisions are final. In the case of field roving tournaments the target captain is the final judge of all disputed arrows. It is the duty of the target captain to draw the arrows from the target and announce their value to the scorers.

The scorers must keep a strictly itemized account of the value of each arrow that hits the scoring face of the target.

Scoring a Target Tournament

On the target line arrows are scored in the following manner: Each archer shall shoot six arrows at one time, called an END. Unless excused by his target captain, he shall shoot three arrows, yield place to his target mate and then, in his turn, shoot the remaining three arrows. All archers remain back of the shooting line until the last archer on the line has finished shooting and the field captain has blown his whistle which is the signal for all archers to go to the targets. An arrow leaving the bow is deemed to have been shot if the archer, while standing where he has been shooting cannot reach it with his bow, i.e.; as interpreted this rule means both feet in shooting position. It is not permissible to keep one foot in shooting position and step forward with the other in order to reach the arrow with the bow.

In walking to the target each archer should guard against stepping on arrows that have fallen short of the target. These arrows should be retrieved immediately and handed to their owner.

Arrows must remain in the target until withdrawn by the target captain or his deputy in the presence of the scorers. Arrows withdrawn otherwise shall not be counted unless excused by the field captain. If an arrow cuts two colors it counts as having hit the inner one. Before touching the target the target captain looks for such arrows, determines their value and if no objection has been raised to his ruling, he customarily withdraws the arrow and inserts it in the color corresponding to the value assigned to it.

We are now ready to score the values of the arrows in the scoring face of the target. The target values for each arrow are: gold-9; red-7;

light blue-5; black-3; and white-1. The target captain withdraws his own arrows first beginning with the arrows having the highest value, withdrawing the arrows one at a time and announcing the value of each to the scorer prior to its withdrawal. In withdrawing the arrow the target captain places the back of one hand against the face of the target at the arrow, grasps the shaft of the arrow near the target face with his other hand using his thumb and fingers and withdraws the arrow along the line of penetration being careful not to bend the shaft. As each arrow is withdrawn he transfers it to the hand which has been placed against the target, grasping it near the pointed end, and continues withdrawing until all of his arrows have been removed from the target and the value of each arrow announced to the scorers.

Individual score cards are provided by the tournament officials. They are made in duplicate and distributed at the start of the tournament. Figure 9 shows a target archery score card with a record of the value of each arrow of the first three ends entered by the scorer. Six horizontal spaces are provided to record each end of six arrows. The column headed *H* indicates the number of arrows in each end which hit the scoring face of the target. Note in the third end that the second arrow is recorded with a zero value which indicates that it either missed the target or landed outside of the scoring face. The last or right hand column headed *S* is the total value of the arrows for each end. At the conclusion of the round columns *H* and *S* are added vertically to give the total hits and the score for the round.

An arrow passing through any part of the scoring face of the target counts five or a blue in target archery and an arrow shot at ranges of sixty yards or less rebounding from the scoring face of the target counts seven or a red; if shot at ranges over sixty yards, a rebound counts as five or a blue. Rebounds must be witnessed to be counted. Any arrow shot into the target and hanging so that any additional vibration may dislodge it and cause it to fall to the ground where it would be scored as a rebound, may, with the permission of the field captain, who will order all shooting stopped for the purpose, be firmly inserted into the target by hand so that the full value of the arrow may be scored at the conclusion of the end.

As soon as all the arrows of an archer have been withdrawn from the target the scorers shall compare totals for the end in order to maintain a check on the accuracy of the score. The archers then assist in locating any missing arrows which have not been found by the number four men.

At the conclusion of the round they should return to the target area to search for arrows that were not found during the tournament. An arrow that has buried itself in the turf and is not visible to the eye frequently can be found in one of the following ways. If the general area in which the arrow is lost is known remove your shoes and slide your feet across the turf at right angles to the line of flight of the arrow. This is probably the safest way to retrieve buried arrows with wooden shafts to avoid breaking the shaft. Frequently a metal-tined fork is drawn carefully back and forth across the turf until the lost arrow has been located, but this must be done carefully. A word of caution on carrying loose arrows. Grasp and hold them loosely at the pointed end so that the fletching of the arrows will not be injured as it surely will be if the arrows are carried in a compact bundle.

. . . *To be continued.*

One More Month



By Herbert Kendrick

NEXT month, with all its chill, color, and brightness, will bring in another glorious gunning season, impatiently anticipated by every man who loves a dog and gun. The only sad note, other than our fears of limited time in the field, is a vast majority of hunters who will again go afield without a dog, losing the greatest part of the experience, and leaving enough cripples to supply an army of men. Others who hunt with dogs will fall miserably short of their expectations because of poor preparation and conditioning of the faithful animals.

It is certainly not my intention to discourage anyone who loves to hunt, however, every year far too many sportsmen receive a rude awakening and a tremendous disappointment. It may be well worthwhile if we consider reasons for hunting failures.

First let us consider the game itself. With increased gun pressure on birds coupled with expanding housing and industrial development, perhaps the number of birds have diminished to a small degree. The scarcity would be far greater except for efficient farsighted game commissions.

We are inclined to blame the small bag on the tired, worn-out statement, "There just aren't any more birds." It seems to me that the statement is untrue, however, it is reasonable to assume that our game has become a great deal smarter. Disturbed more often, a game bird has made it his business to seek more wilderness area and to learn more tricks to evade the dog's point and the gunner's marksmanship. Their feeding habits change, they are more alert, and take fewer chances. To me this is a challenge to the smart hunter, who must be in better physical condition, be more alert, better educated in bird lore, develop and train better dogs, and take it with a smile when he is outsmarted by a crafty grouse.

All this leads up to a very strong point in this new method of bird hunting. The proper dog, properly handled, will solve many problems.

A lamentable number of men look upon the pointing dog as a mechanical performer; something inanimate that is given little or no attention eleven months of the year, and can yet be depended upon to produce infallibly, when the opening day arrives. He is fed, watered, doctored, and then left to lie in the shade until pounds of flabbly fat lard up his muscles. The soft, fat animal is called upon to cover acres of rough territory at top speed and to find and handle birds successfully when the sweat is rolling from him as a leaky boiler.

Conditioning is as necessary for the working dog as for the prize fighter. There is only a month left for us to get the dogs in proper shape, and any man who cannot spare the time to harden his dog should send him to a professional trainer who will prepare him for the days of strenuous physical activity.

Give the young dog a fair chance. If at a tender age last year he pointed and held his game, do not be too sure he will repeat this season. His great independence and enthusiasm

for the sport may surpass his early instincts. If punished and cramped too severely the little feller may become broken spirited and be worthless as a worker. Exercise extreme patience and caution and try to understand the temperament of the hopeful.

Use good reasonable judgement in evaluating a puppy, no matter how great his parents may be. Remember he is an individual and may differ greatly from his sire or dam. Give him ample time to develop and make sure he receives correct training.

It is truly sad to see a hunter realize at the last moment that he should have a trained dog for the season, frantically calling and wiring commercial kennels for a suitable pointer or setter. After much confusion a dog is shipped, arriving too late to be worked. The new dog is started into the season with a strange handler and in unfamiliar territory. If a dog should perform satisfactorily under those conditions he is really one in a mililon.

It takes time for a new dog to accept a new master and understand his requirements. Acclamation to climate, terrain, and cover also takes ample time. Give a dog a chance to work for you and successes will be more abundant.

The gunner who treats his dog as he does his close friends is the wise man who derives the greatest benefit from the animals that work their hearts out to make every field day one long to remember.

Spend these last days working and conditioning your dog, so that he will be fit to outsmart smarter birds and cover more territory in search of those that have changed their cover into the deeper thickets.

. . . *The End*

HOW TO SECURE A SPECIAL ARCHERY LICENSE

Application forms for a Special Archery License and Archery Preserve Permit can be obtained from any County Treasurer, any hunting license issuing agent, the Pennsylvania Department of Revenue or the Pennsylvania Game Commission at Harrisburg, Pennsylvania.

To obtain a Special Archery License, which also entitles you to hunt on the Archery Preserves, first secure your resident or nonresident hunting license, then submit a completed application and the fee of $2.00 to the Department of Revenue, Room 304, Finance Building, Harrisburg, Pennsylvania. The Department of Revenue is the only agency from which Special Archery Licenses can be obtained.

The special archery season for male deer with two or more points to one antler is October 15 to October 27, both dates inclusive, except Sunday the 21st.

1951 Pennsylvania Open Seasons for Waterfowl and Other Migratory Game Birds Under Federal and State Regulations

SPECIES	OPEN SEASONS FIRST DAY	OPEN SEASONS LAST DAY	DAILY BAG LIMITS	MAXIMUM POSSESSION LIMITS*	LEGAL SHOOTING DAYS AND HOURS (SUNDAYS EXCEPTED) BOTH DATES INCL.	HOURS (EASTERN STANDARD TIME)
Sora	Sept. 1	Oct. 30	25	25	Sept. 1 to Oct. 11	½ hr. before sunrise to sunset
					Oct. 12 to Oct. 30	½ hr. before sunrise to 1 hr. before sunset
Rails (except sora) and Gallinules	Sept. 1	Oct. 30	15	15	Sept. 1 to Oct. 11	½ hr. before sunrise to sunset
					Oct. 12 to Oct. 30	½ hr. before sunrise to 1 hr. before sunset
Woodcock	Oct. 8	Nov. 6	4	8	Oct. 8 to Oct. 31	½ hr. before sunrise to sunset
					Nov. 1 only	9:00 a. m. to 5:00 p. m.
					Nov. 2 to Nov. 6	7:00 a. m. to 5:00 p. m. but not after sunset
Doves	Oct. 8	Nov. 6	8	8	Oct. 8 to Oct. 31	12:00 Noon to sunset
					Nov. 1 to Nov. 6	12:00 Noon to 5:00 p. m. but not after sunset
Ducks (except American and Red-breasted Mergansers)	Oct. 12	Nov. 24	4 (only 1 wood duck)	8 (only 1 wood duck)		
American and Red-breasted Mergansers	Oct. 12	Nov. 24	25	(any number after first day)	Oct. 12	12:00 Noon to 1 hr. before sunset
					Oct. 13 to Oct. 31	½ hr. before sunrise to 1 hr. before sunset
					Nov. 1 only	9:00 a. m. to 1 hr. before sunset
					Nov. 2 to Nov. 24	7:00 a. m. to 1 hr. before sunset
Geese (except Snow)	Oct. 12	Nov. 24	2**	2**		
Coots	Oct. 12	Nov. 24	10	10		
Brant	Oct. 12	Oct. 20	3	3	Oct. 12	12:00 Noon to 1 hr. before sunset
					Oct. 13 to Oct. 20	½ hr. before sunrise to 1 hr. before sunset

NO OPEN SEASON—Wilson's Snipe (Jacksnipe), Snow Geese and Swans.

* Possession 90 days after close of season where taken.

** The daily bag must not contain more than two Canada Geese, but in addition include 3 Blue Geese which is also maximum possession limit.

EXCEPTIONS FOR SPECIAL AREAS: On the open waters of Lake Erie and the open tidal waters of the Delaware River lying within the Commonwealth from Trenton Falls to the Delaware State Line (not including inland tidal water), when shooting, from boats or blinds at least 100 yards from shore or the shoreline of any peninsula or island within said Lake or River, the Federal one-half hour before sunrise to one hour before sunset regulation applies throughout the waterfowl season, except on October 12 (opening day) when shooting before 12:00 O'clock Noon is unlawful, and on November 1, when shooting before 9:00 A. M. is unlawful.

MIGRATORY BIRD HUNTING METHODS

Permitted: Shotgun only, not larger than 10-gauge, fired from shoulder (including hand-operated and semi-automatic repeating shotgun of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun); dog; blind; boat propelled by hand; floating device other than sinkbox; artificial waterfowl decoys. Injured or dead waterfowl may be picked up by means of a motorboat, sailboat or other craft.

Prohibited: All rifles; live duck or goose decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat, or any device towed by power boat or sailboat. Birds may not be taken within ½ mile of any place where corn or similar feed is placed or exposed during or within 2 weeks prior to the open season, and it is unlawful to place or distribute in any manner corn, wheat, oats, or other grain or product thereof, salt, or any kind of feed, whereby migratory game birds are attracted or lured, and taking of waterfowl by use of cattle, horses or mules. No motor-driven land, water or air conveyance or sailboat may be used to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING

It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he carries on his person an unexpired Federal migratory bird-hunting stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. **This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock and Doves.**

Pennsylvania Official 1951 Open Seasons and Bag Limits

Federal Regulations on Waterfowl and other Migratory Game Birds may be secured from License Issuing Agents or Game Commission, when available)

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for bow hunting on October 15, small game on November 1 and buck hunting on December 3 will be 9:00 A. M. Otherwise, shooting hours daily are 7:00 A. M. to 5:00 P. M. but from July 2 to September 30 inclusive 6:00 A. M. to 7:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	Day	Season	First Day	Last Day
Bobwhite Quail	4	12	Nov. 1	Nov. 17
Hungarian Partridges	2	8	Nov. 1	Nov. 17
Ruffed Grouse	2	6	Nov. 1	Nov. 17
Wild Turkeys (see counties closed below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, males only	2	8	Nov. 1	Nov. 30
Rabbits, Cottontail	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black & Fox (combined)	4	20	Nov. 1	Nov. 30
Squirrels, Red (closed October only)	Unlimited		All months except	Oct.
Hares (Snowshoe Rabbits)	2	6	Dec. 24	Jan. 1, 1952
Raccoons, by individual or hunting party*	5		Oct. 15	Feb. 1, 1952
Raccoons, by trapping*		40	Oct. 15	Feb. 1, 1952
Woodchucks (Groundhogs)	5	Unlimited	1951: July 2 to Sept. 29 1952: July 1 to Sept. 30	
Grackles (closed October only)	Unlimited		All months except	Oct.
Bears, over one year old, by individual	1	1	Nov. 19	Nov. 24
Bears, as above, by hunting party of three or more	2	2	Nov. 19	Nov. 24
DEER Bow and Arrow Season—Male with two or more points to one antler (requires Hunting License and Special Archery License) by individual	1	1	Oct. 15	Oct. 27
Regular Season—Male with two or more points to one antler, by individual*			Dec. 3	Dec. 13
Antlerless Season—(requires Hunting License and Antlerless Deer License) by individuals*			Dec. 14	Dec. 15
NO OPEN SEASON—(Hen Pheasants, Cub Bears, Elk and Spike Bucks)				
FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected to	Sept. 1, '52
Minks and Otters	Unlimited		Nov. 5	Dec. 15
Muskrats	Unlimited		Dec. 1	Jan. 15, '52
Beavers (traps only), state-wide*	2	2	Feb. 15, '52	Mar. 1, '52

SPECIAL REGULATIONS*

POSSESSION AND TRANSPORTATION LIMITS of legally killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

TURKEYS, COUNTIES CLOSED TO HUNTING—Adams, Armstrong, Fayette, Greene, Mercer, Somerset, Venango, Westmoreland and York. In addition, that part of Cambria west of Highway Routes 271 and 56; that part of Cumberland south of U. S. Highway Route No. 11 to the west shore of the Susquehanna River; and that part of Franklin south and east of U. S. Highway Route No. 11 are closed.

RACCOONS—Hunting season begins at 7 A. M. on the first day, and ends at Noon on last day (see instructions below concerning trapping). May be hunted day or night, Sundays excepted. The season limit applies to hunting and trapping combined.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1951 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during bow and arrow season, issued only by Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued by County Treasurers and the Dept. of Revenue, Harrisburg, at a fee of $1.10, and valid only in the County for which issued. Farm occupants permitted by law to hunt without a license may also hunt for Antlerless Deer during the Antlerless Season on the same land as for other game. See Digest issud with hunting license for details. Under the law, no application for an Antlerless Deer License shall be approved, or license issued, to a non-resident prior to November 14, or after December 13, 1951.

BEAVERS—No trapping at Commission-posted dams. Non-residents may not trap beavers. One person may set, tend or operate 10 traps only. Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or water line to facilitate identification without disturbing traps. Pelts must be tagged within 10 days after season, and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers and raccoons not to be placed, taked or set before 7 A. M. on the first day of the open seasons. The season on the last date indicated for Trapping closes at 12 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (7-10-51)

REGULATIONS FOR UPLAND GAME FIXED BY PENNA. GAME COMMISSION AT MEETING JULY 5, 1951.

1951 HUNTING LICENSE IS VALID SEPT. 1, 1951 TO AUG. 31, 1952, BOTH DATES INCLUSIVE.

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LOOK— before you shoot!



Someone may be in your line of fire

Last year 16 people were killed and 449 injured in hunting accidents, and the type of carelessness portrayed above was responsible for a great number of these "mishaps." It's so easy to keep an eye peeled for other hunters and to mentally mark their locations as you stroll through a bit of cover, that there's seldom any excuse for not knowing their exact whereabouts. And to place so much game-pocket value on a piece of game that you will deliberately endanger another hunter in order to get a shot—well, that's nothing short of criminal.

Analyze your hunting habits. If you are sometimes guilty of this breach of good conduct afield you owe it to yourself and to your fellow hunters to always *look before you shoot*—and let your shooting be governed by what you see.

PENNSYLVANIA

Game News

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NOVEMBER 1951

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THE STORY BEHIND THE COVER

PENNSYLVANIA was the first state to recognize the black bear as a game animal. Bruin was accorded this tribute to his stamina and cunning when the Legislature gave him protection back in 1905. In those days bears were considered predators by many states and were unprotected the year round.

With that first protective measure the Commonwealth established a life-time insurance policy for the tribe of bruin because it has more than held its own ever since and today is still plentiful throughout its range.

The black bear is one of our most sought-after and highly-prized trophies because of the challenge it offers to the hunter's ingenuity and skill. He's a big, tough, sagacious animal to outwit and subdue. He has a bag full of tricks and knows how to use them as many a hunter will testify.

His tribe was further safeguarded in 1925 when cubs were protected. Regrettably too many hunters mistakenly kill cubs. The Commission urges them to be more careful and aim only at larger, legal animals such as the one above which has just been inspected by Game Protector John Lohmann of Milford, Pennsylvania. The proud nimrod is Charles F. Wetmore also of Milford, who made sure he was shooting at a legal animal, not a cub.

INSURE BEAR HUNTING FOR FUTURE YEARS BY SAVING CUBS!

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JOHN S. FINE, GOVERNOR

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PGC Photo

Peace and Plenty

As autumn leaves are falling, and man and dog are again roaming the fields and forests in quest of game and recreation, let us take time to reminisce about the many good things which have been ours during the year which is now rapidly drawing to a close.

God has bestowed many wonderful blessings upon us. Is our thanks for these blessings commensurate with their richness? If it is not, then it behooves us to redouble our thanksgiving for the natural heritages we possess; to increase our efforts to safeguard the soil, forests and water which feed, clothe and shelter us; to further protect and preserve the fish and the wildlife which furnish us healthful and abundant recreation.

The horizon of the future is not tinted with the golden hues of a beautiful sunset; it is smudged with the clouds of uncertainty, fear and bewilderment. In the midst of celebrating an Armistice dearly paid for, there looms another menace which may exact an even greater toll.

That is why on Armistice Day and on Thanksgiving Day we must dedicate ourselves anew to the liberties we enjoy; reaffirm our pledge to safeguard our non-renewable possessions by using them wisely; and perpetuate our renewable resources by protecting and replacing them generously.

PRAYER AND THANKSGIVING ARE THE KEYNOTES OF PEACE AND PLENTY!





Compare this conspicuous and unsteady shooting position with the one at right.



Use that stump to break the outline of your body.

Do Deer Get You Down?

By ED SHEARER

THAT woodcraft has become a lost art is the lament whenever a quorum of old timers get together. They are inclined to be super critical of the present era hunters. While in a large measure this is true, it is equally true that quite a chunk of the same woodcraft would be wasted today, speaking of our populated East. Theirs were the days of rugged individualism. Lumber was king. Those days a large number of people lived in or near the forests, made their living in them and as a rule took their pleasures from them. Their forefathers settled the country in most cases. They were steeped in woodslore along with McGuffey's reader. Then too, game, fish and forest fruits played their part in easing the store bill. They lived close to the land and woodcraft was a part of it.

Today those occupations have gone with the timber and dwindling natural resources. The modern hunter is the product of the machine era. The average hunter gets two weeks vacation with occasional weekend trips to the forests. He either hires himself a woodsman and places himself in his hands or goes it alone, singly or in groups. The one depends on the guide and the other trial and error, mostly error. Thus he blunders along year after year, learning little but suffering much. Even a finely bred bird dog does not get far on two weeks a year.

Where the average man loses out

too often is not in involved feats of woodcraft but in plain little simple things he can easily grasp. As a rule nature is simple as well as logical. So it's the little things that spell failure or success. Now I cannot teach anybody woodcraft in one article or a hundred for that matter. Neither can any one else. But we can go into a few simple things that will greatly improve your chances.

The first lesson and seemingly the hardest for the average man to learn is to take it slow and easy. The chap who goes rushing here and there and is impatient to go places, sees plenty of scenery but little game. He overlooks details and these details are the foundation of woodcraft.

Let us consider the natural defenses of a deer against his enemies. His five senses are the same as mans. He has sight, smell, hearing, taste and feeling. Of these sight, smell and hearing are his main defense and are much keener than man's. It's a matter of conjecture whether those bell like ears can pick up vibrations from the ground when lying down, much the same as the old plainsmen put their ear to the ground to detect pursuit otherwise inaudable to the senses. Then too, the deer lives in an environment that enhances the value of these senses.

Now as the hunter cannot compete, he must devise ways to offset the natural safeguards of his game. The deer's sense of smell is celebrated in legend and tale as being the main obstacle to overcome. This may be true in the main but do not rely on it too much. A deer's reliance on his senses is in direct proportion to the existing conditions that favor one or another. For instance when it's dry and noisy underfoot, it's his ears you must watch out for. On a wild windy day, it's his eyes. So you must shift your tactics with prevailing conditions. Just how far a deer can smell is a matter of speculation. Under favorable conditions a deer will probably wind you at one quarter of a mile. Even so, as far as I can observe, a bear has a far keener nose. This matter of wind, I believe, is responsible for the cause for more hunters to be in good deer country and yet fail to see deer—than any other single error.

More than once I have back-tracked deer that came right up to me when, in the natural order, conditions should have put them out to another of the party, whom I greatly desired to have the shot. The answer in most cases was wind. The tracks would lead straight for the watch or stand, then stop a hundred yards or so away and sharply vere away.

Some thought on wind will pay off more to the average hunter than any other single item of woodcraft. You will no doubt observe how invariably the tracks of the whitetail head for high ground once the business of feeding in the early morning hours is completed or he is pursued. Well there is good sound reason for this and I never found the answer 'til some years ago an interest in flying and boating led me to study the weather.

The one thing that immediately drew and absorbed my attention was wind currents. Their course in relation to the ground and factors that controlled their rate and flow, was a revelation, to me. The cause of many a fruitless day when all the signs were right were stripped naked of their mystery. I learned that even when I could detect no wind there is a regular current of air and its rate of flow is controlled by the general nature of the surrounding topography of the country you are hunting in. We know that air on being warmed has a tendency to rise, displacing cold air, which in turn replaces the warm air; thus a movement is set up.

Now let us consider some of the factors that control the direction of this

flow of air currents. The most common of these the average hunter in the East will meet is high ground. Take the top of a hill or mountain. The rays of the sun strike it first and with the greatest intensity, warming the surface of the ground. This heats the air causing it to rise, drawing cold air from the less heated slope, thus setting up a flow. The general direction of this flow is from a point in the hollow to the top of the hill or mountain. The point in the hollow is determined by the counter-balancing of the pull from the opposite slope or other controlling factor such as a body of water.

This explains why deer instinctively seek the high ground in the daylight hours. It is there that his nose is most effective to him. It also points out that the best watch or stand, if watching one hillside, is well up the opposite side you expect the deer—to come out. Do not even walk on the side you are watching. Your foot steps will leave a lingering scent that will make your deer suspicious. Under these conditions you are perfectly safe from the keenest deer's nose.

In the above situation I've had a great number of deer come right up to me entirely ignorant of anything amiss 'til after they passed me and received my wind.

The rate of flow of these currents will be controlled for most part by width of hollow or valley and by degree of slope of the mountain, just as a forest fire travels rapidly up a steep slope, creating its own draft. Intervening ravines and ridges may create eddies and back drafts and should be watched closely.

Conditions which nullify the upflow are when the sun is obscured and cannot exert any warming influence on the surface of the ground. On a cloudy overcast day the chief tendency of the air is to remain stationary. Thus you would be guided by wind direction exclusively. Snow will also change the general up-flow for then the sun cannot strike the surface of the ground. However rocks, bare places and vegetation can be warmed to some extent, causing local flow which can cause local trouble to some degree.

A case in point occurred last fall. Snow covered the ground and the temperature was down to about 25 degrees. The sun was just beginning to warm the atmosphere. Three of us were catfooting up a shallow draft to our watches. From the head on a rocky knoll about 150 yards to our left came the familiar snort of a deer followed by the noisy crash of flying bodies. They did not hear us or see us for under the circumstances they would have hardly blown. There was a perceptible wind. So the answer was that the heated rocks on the knoll drew our scent up to them. Three days later we bagged two in the same place by reversing the process. On such slender threads hang success or failure sometimes.

If the sun dips behind the ridge the tops will cool and reverse the flow. A body of water will accelerate the adjacent air currents for it warms the surrounding land by night and cools it by day. These are all relatively simple things to watch and require no woodcraft whatever.

Now, the slower the air currents, the more concentrated our scent becomes and the farther it is carried to the deer. As most deer country necessitates slow hunting for good results, it follows that under these conditions we must be doubly careful of air flow. If in doubt and lacking other indications, light a match and watch the smoke trend. Conversely the stronger the wind, the more the scent is scattered and dissipated in the air. Under these conditions a deer must be close to locate you.

A good illustration of this is a bird dog of good nose. I have seen such

a dog in the calm of evening go straight to a bird at better than 100 yards, using body scent, and point it solidly. Now take the same dog on a windy day and he has trouble locating his birds and will pass some entirely, pinning only those relatively close. Following a good bird dog is the quickest way to acquire a working knowledge of the potency of scent—that I know of.

There are other ways of getting around wind. A favorite method of some old timers is climbing a tree. I do not recommend it for various reasons. It may have been more or less satisfactory in the old days of big country and few hunters. But with the armies in the woods today I desire to be closer to the ground when the bullets begin to fly. Then there is a fair chance that one of the more imaginative Shikaree's might take you for a bear. It's been done. Also it's not only a poor shooting position if there is any wind but it's the coldest and most cramped method of torture that I've tried. Its only virture is that in some types of cover it's the only way you can see.



This is a common sight in deer woods during the whitetail season.

Now I have gone into this matter of scent rather deeply because ob-

By moving back twenty feet you can get a shot at your buck before he makes that flying leap across the road.



servation of hundreds of present day hunters convinces me that more hunters lose their chance for a buck from wind, than any other single mistake they commit. Very few have any conception of scent, yet your success depends on it. A buck may sometimes make errors in hearing or eyesight but nose, NEVER. In 45 years on the trail I've never met a deer with a cold in his head.

The next important sense that we have to get around is their hearing. Don't get the idea you can compete with them on this item either. Deer ears are large and bell shaped to catch the slightest sounds at an unbelievable distance under some conditions. While your ears are small and set flat to the side of your head and are better adapted to catching sounds to the side or rear of you, the deer can move theirs either forward or backward to catch sounds that you cannot. Now let us consider that a deer will probably spend his entire life within a space of a dozen square miles. Also as he does not prey on other animals or birds he is regarded as a harmless individual by the rest of the forest dwellers and they pay him no attention. Consequently he learns to recognize each sound in his world and exactly what causes it. Now sounds to which he is not accustomed spell danger to the whitetail.

While just loafing in the woods with a camera one early fall day, a fair buck fed up to within sixty paces of me. As I watched a grey squirrel came along searching out acorns, making quite a racket in the dry leaves. The buck never designed to take his attention from his supper. Being well screened from the buck's vision and while the squirrel was still carrying on his hunt, I took an experimental step in the dry leaves. The buck was off immediately. You can draw your own conclusions.

On the other hand foreign sounds which are repeated day after day and which do not harm them, they become readily accustomed too. They pay little attention to wood chopping, automobiles (if a road runs near their chosen abode), etc. as long as they are familiar with it in that location. Now and then a deer's curiosity will get the better of him and he will walk up to a strange noise to see what gives, but don't put much faith in it. There are some stupid deer just the same as there are stupid people. You can gamble that if a buck dodges lead long enough to grow a respectable head of horns, he will have precious little curiosity left. A deer may walk up to a noise but even a dumb one will not let a noise walk up to him, unless he is skulking in thick cover. Then you can almost step on him as long as he thinks you don't see him, and the chances are you won't. I've had a buck sneak by me so close and shadowlike I had to look twice to assure myself that I wasn't dreaming.

The one weakness that I have been able to observe in a deer's sense of hearing is the inability to locate the direction of a sharp quick sound. He doesn't seem to locate it promptly and will stop in most cases to find out where it came from. From this quirk in the deer's hearing the old timers developed a trick which they used with devestating effect. Maybe I shouldn't tell this on the deer for my observation lead me to believe it is little known or at least used by the present day generation of hunters That is the trick of a short sharp blat or whistle by the hunter which causes the deer to stop dead still. A blat has cost many a buck his life when he was fanning it right along, with an odds on chance for a miss by the hunter. One caution however. Pick your spot to stop him and have your gun to shoulder ready to shoot for he will be looking and listening. The slightest movement or sound and he will be off like a jet plane. In any event he won't tarry long.

As always there are exceptions that must be calculated. A deer that has been jumped or shot at close to you will seldom stop. If you are between him and some choice cover, even if he sees you, he will merely swerve around you putting on more steam.

The best days to offset a deer's hearing are windy rough days. This condition also makes their nose of little value. So here it's his eyes that you must look out for. His eyes are probably no better than your untrained woods eye for motionless objects. He is naturally fidgety and nervous on these kind of days seeming to realize his handicaps. So if you take it very slow, stopping and looking every few feet, you may see him move first. A turn of the head, a switch of the tail may catch your eye, after which it's surprising how fast he will take form.

A damp day is another good condition, though I think this works both ways. Such a day is usually dark or overcast. No light will reflect from his coat and he becomes a noiseless shadow, ghosting through the brush. You must look extremely sharp on days like this for unless he comes close you will never know there is a deer in the country.

Snow is much over rated these days and even a soft snow is not as noiseless as you think. It takes a real expert to handle snow without noise and if there is the least crust, even he will not attempt it. Even its vaunted tracking qualities are of doubtful value in these days of mass hunting. Follow a track and you make some other fellow happy. If you don't down your deer close by, some other chap shoots and claims it. Add to this the increased visability and hearing on the deer's part and I'll take no snow for mine. The best bet under these circumstances is to pick a spot where you can see well in good country and sit down and remain motionless. Don't pick a runway unless you know absolutely that deer are using it at the time.

Now we come to the last and least relied on of the deer's first line of defense, his eyesight. I believe one of the major mistakes of the average hunter lies in under rating it. It's true that conditions being favorable the deer will sometimes walk right up to you. The reason for this is that in the country where the deer lives, his nose and ears are of far more protection to him than his eyes. Therefor his eyes are trained more to detect motion of an object rather than the object itself. When a deer has once spotted you, just try to sneak up on him and you will find him far from blind. Just consider that in darkness when you cannot see, a deer goes right on feeding and otherwise conducting his business. This does not bear out the theory of poor sight on the deer's part. As a general rule as long as a deer has not seen you, it is safe to disregard his eyesight to the extent that you can remain motionless and no more. The slightest motion and you will see his flag disappearing into the landscape. I've learned this the hard way. The safe way is to give him credit for better eyesight for motion than your own. After all his hide depends on it and yours doesn't.

A deer's speed is amazing in some respects. No matter how fast they are running they always seem to be able to go faster, if they have to. I had this demonstrated to me on in the Forney Run country in Pennsylvania some years ago. Stanly Gardner, the International team shot, and I were on a watch on an open, stump-dotted hillside, about 100 yards apart. The drive was coming through on the opposite ridge. Finally a doe came down the hillside, crossed the laurel screened run in the bottom and came directly up the hill to the white pine stump, Stanly was crouched behind. When not more than eight feet from

his stump, Stanly unexpectedly popped up and yelled, "Where are your horns"?

Well, if she had any horns she sure would'a run out from under them. Straight for me she came, running low to the ground as deer run when they really want to make time. As she passed me, I popped up and hurled the American equivalent of the English "Tally-Ho" practically in her face. By this time the doe was convinced that the earth had suddenly become populated by monsters who sprang out at deer from behind stumps, ready to tear them to pieces, especially doe deer.

With a terrified "Bah!" she spurned the earth and took to the air, heading for the run. Such prodigious leaps I never have seen equalled. The last we saw of her, a long bound above and into the laurel took her from sight but not hearing. Her longest leap going down hill measured 32 feet. This behaviour on a watch is unethical and may have cost you a buck, but what is a buck compared to a performance like this.

Now that we have covered the chief points of a deer's senses there are several common blunders that involve no extensive woodcraft. You see far too many hunters on roads and fire lines standing right out in the middle as though they were on sentry duty. Too many get the idea from summer observation of deer standing and fawns gamboling along roads and trails that this is their normal behaviour in the fall. They are due for a rude awakening. From the time hunting opens some sixth sense warns them that roads and trails are taboo. Their usual procedure at this time is to sneak up and poke their heads out for a quick look up and down. Then if all seems clear they cross on the jump. This presents one of the most difficult shots in the woods. If you must watch a road or a trail there are two things to keep in mind. Try to pick some high ground where you can see into the brush around you. Then stand at the edge against the trunk of a tree to break your outline.

Another common failing that cheats many a hunter out of a buck is a fire. Observation leads me to believe that deer are not afraid of fire itself. where the harm comes in is that it attracts his attention to that spot. Another case of something out of the ordinary.

Now you can see the foregoing is more common sense than woodcraft, involving no works of magic. We can sum this up with a few simple rules that may save you a lot of heartaches.

Always carry your gun ready to shoot. Either in the hollow of your arms or in both hands, safety on of course. Never get separated from it in the woods and be sure a shell is in the chamber.

Go slow enough to keep on balance in any country, so that you can shoot instantly. Letting your self get out of breath is a good way to miss a deer. Big Puff, Little Hit.

Never take a long shot if you can get closer. Hold low on average shots. Deer are low to the ground but appear larger on the hoof.

Pick clear places. Don't get hemmed in by noisy brush where you can't see to shoot. Stay off stumps, they silhouette your body and are poor shooting positions.

Keep looking ahead, not down at your feet. Go only as fast as you can examine the country ahead of you.

Don't sneeze, cough or talk in the woods. Nothing scares deer quicker than the human vocal chords.

Above all things watch the wind.

Now this article will not make a leatherstocking out of you but if you follow these precepts, you will put on the skillet more often.

. . . *The End*



Dear Son:

Sorry you lost the game last week; but your team met a better one and that's all there is to it. You did your part, I know, and that's what counts. It takes eleven men to win a football game. When I played, we used to say: "A team that *won't* be beaten —can't be." I recall seeing a football motion picture titled "Salute." It gave me quite a kick to hear the "Navy" coach use those very same words in talking to his team before the "Army" game.

That was too bad about the low mark in Trig. But your other marks are well up, and one can't always do well in everything. Trig was almost impossibly hard for me, too. Why wouldn't it be a good idea to tutor for a while? The important thing in all work is to understand it at the foundation. Tutoring might give you a firmer foundation. Don't bother about the expense. The result is the important thing.

In my last letter I reminded you of your first trip to The Land Of the Canoe—when you were but nine years old. I had in mind then to continue right along and remind you of some of our later canoe trips. But this is football—and h u n t i n g—weather, with the frost on the pumpkin. So I'll jump around a little for sake of variety. I'll not be forgetting, though, to go back in my next letter and re-live for and with you the trip you and I took together to McGregor Bay—when you were twelve.

Bird dogs freely roamed our streets in the days when I was a boy. Street cars drawn by mules or horses were not dangerous; and neither were horsedrawn buggies. How different now—with the honk of auto horn and the killing speed of gasoline! I may be cataloged as an old fogy—and suppose I must admit that the present represents progress—but d'you know, I sometimes long for the days that are gone. We went slower—but we generally got there. And it often

seems to me that we got closer to many things of life. I wonder if today we don't just speed past too many of the real essentials. We tag them and rush on, instead of digging deeper as we go.

When I was young, four of our stateliest old homes stood right in the center of town at the four corners of First and Ludlow streets—and setters or pointers were always owned at three of them. Hunting dogs were seldom kenneled in those days. They didn't have to be. Never forget, my son, that hunting is the oldest sport in America. Whatever our country may be today she owes much to the fact that her early settlers had their fibres strengthened by the rigors of the chase. In those days hunting was engaged in as a necessity, before much thought was given to it as sport. But it developed a hardihood of the sort we still need. Perhaps we need it even more today than ever. Which is not to take away a thing from the way our glorious youth has measured up "under fire"—God bless them! And yet—

One time when I was judging a field trial at Conneaut Lake in my old Pennsylvania stamping ground, I had a visit for the first time since we were in Allegheny College together with Claude Aiken, who had been a great end on our football team, and whose home was at Butler. Among the many things Claude said to me then was this:

"The thing that will save the grouse," he said, "is that so few young grouse hunters are coming along. The old-time type of grouse hunter will die with our generation. The pheasant, he added, "is the salvation of our grouse."

I was moved to ask him to explain, and this is what he told me: "Well, pheasant hunting is *easier*—and that's what attracts the young fellows. They won't tackle the hard hunting for grouse when pheasants are available in territory of easy footing."

Now, son, that's too bad—though I, myself, love pheasant hunting, as you well know. But if grouse hunters are dying off because the younger generation shies at tackling a hard job, then it doesn't speak so well for the young men of today. We develop strength from tackling and conquering what is hard—never by taking the easier short cuts. And I am not speaking of just hunting strength alone; but the strength to *do things* in life—the will and the "guts" to tackle any job and *see it through*. America needs that sort of man power today as much as she ever did. More!

Wait a minute! There I go again on the same old-timer tangent that afflicts me too often. After what our boys showed on the fighting fields of France, I ought to forget it forever. What's more to the point, you yourself showed me up some years ago. You may remember a certain debate when you were in High School. One of your class spoke for modern youth in athletics vs. those of my day. I was chosen to speak for the latter. Grantland Rice had just had an article in Collier's titled "The Legs Of Yore." I firmly believed every word he wrote —one thing being: "The boys of today no sooner learn to walk than they start to ride." I made much of that. Later, you and I took a canoe trip, outfitting at Ely, Minn. We came to one portage with an immediate stiff climb. I insisted we take light duffel over first and get the lay of the land. I dreaded that climb with the canoe and proposed we carry it double. You laughed at me and said it would be easy; and, before I could stop you, you had thrown a 50-lb. duffel bag over your shoulders—and the canoe on top of that!—and went on up over that hill while I was still sputtering. Right then and there you won me over to the legs of *TODAY!*

Be that as it may, the tenderfoot never gets very far in the hunting game—unless he can get over being "tender"! I'm thinking of one time

when hunting in southern Indiana. It was a long, hard day over the roughest kind of country. I guess I must have been a bit "off my feed" or something, for I remember how tired I got late in the afternoon. Several times I thought I'd surely have to quit, seemed as if my legs would let go at the knees. But I had an inspiration that compelled me to keep going. Out ahead was ever the vision of that game little setter bitch still boring into the birdy places. I knew she was fully as tired as I. She had covered ten or more miles to my one. Yet she wouldn't quit till she'd drop. She had the heart. Could I show less of it than she? I tried not to; and that inspiration is what kept me going—a dog's example kept me from quitting cold. It was an example that I shall always remember. It is such things one gets in the hunting field. Courage is a great thing, dear boy—and loyalty—and if there is anywhere on earth one may seek these with as much hope of finding them exemplified as in a hunting dog, then I for one do not know where to tell you it might be.

My love of a dog came early in life. I always used to have all kinds when I was a kid, the number limited only by my ability to acquire. At the edge of our neighborhood there lived the longest, leanest, lankiest colored man I have ever seen. I never knew his first name, but his last name was Scott. He was known to all the boys around as "'Nigger" Scott. He came from South Carolina and he took a particular interest in me because of my love for hunting. I remember he gave me an old muzzle-loading rifle that I was very proud of, and it would shoot too. He took me coon hunting —and I was with him much. I liked him, and he liked me. Truly he was indeed an interesting character.

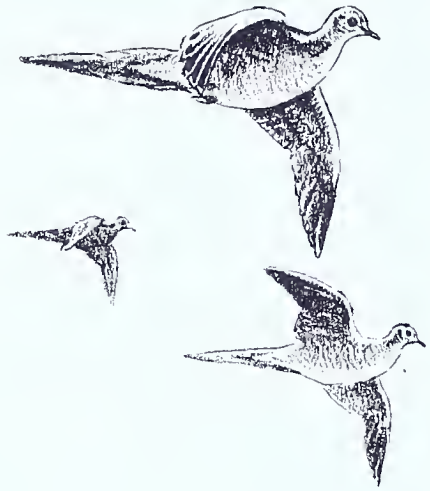
Well, Scott had an unlimited number of dogs of every description. Two stood out from all the rest. One was a bitch that was mostly hound, and the other was a dog that was mostly bull. It so happened that one day the bitch gave birth to a litter of puppies. When they were tiny little things, Scott gave me one that was pure white and about the best-looking, bow-legged bull pup you might hope to find.

Now I thought a great deal of that puppy, but so did my cousin, and when he had finally raised his price to fifty cents, the amount was too staggering to be denied—and the "bull" puppy changed hands. But that puppy was too manifestly *some dog* to become a fixture. My cousin carried him down street one day and almost the first man he met took a fancy to him. The price offered was five dollars—and my cousin succumbed.

"Of course you can furnish the papers," the new owner inquired.

My cousin didn't know what "papers" meant, but paper is ever an easy thing to promise—and a five dollar transaction was far too important a project to permit a little thing like paper, of any kind or color, to interpose a barrier. The result was that my cousin promised the papers later and the new owner took his puppy on the spot.

About six weeks later my uncle was visited by the maddest man in seven counties. He hadn't come for his "papers"—but for his money back. He claimed the dog had been misrepresented to him. The very idea! My cousin was only ten years old and he had neither represented nor *mis*represented anything. He had merely had a good-looking puppy, to which this man had taken a fancy and for which he had paid his own price. It would never have occurred to my cousin to ask so staggering a figure as five dollars—so the man's claim was ridiculous on the face of it. Five dollars represented the man's offer not my cousin's quotation. The buyer thought he was getting a fifty dollar dog cheap from a boy. But that "He who diggeth a pit for others may fall



into it himself" certainly held good in this instance.

I wish you might know what six weeks more of age had done to that puppy! He was, of course, still white. but he was growing longer instead of taller; and leaner instead of heavier. His bow legs had grown even more bowed. In short, the puppy which had begun life with so much promise began to look more like a Dachshund than bull. My uncle rightly placed the blame where it belonged, and refused to return the man's money. That has been many, many years ago, but uncle Harvey still gets a good laugh out of it when I remind him now-and-then of the uncomfortable half hour he spent with his son's irate bull-pup customer.

One of the early sporting adventures I loved best as a kid, in the old bicycling days, was to ride out in the country with the older men on summer Sunday afternoons to locate dove flights. When the best flights had been found, we would go back later with horse and buggy for the shooting. These flights were always near some creek or other water, to which the doves would come in the evening after a day of feeding in the fields and before going to roost for the night.



Now it just so happens, as you know, that I prefer almost any other kind of hunting to shooting doves—largely, perhaps, because I regard a dog as an inseparable adjunct to an enjoyable day afield. Still, thinking of those old dove hunts of days gone by reminds me that doves have long been listed as "song birds" in a neighboring state and the shooting of them is not legally permitted. The dove is a migratory bird, and as such is subject to Federal legislation. He is here today and gone tomorrow; no single local law can do him either much good or much harm. Protecting the dove as a "song bird" in one northern state simply makes that much better shooting in other points south.

What really gripes me, son, is that so much legislation pertaining to game is put through by sob-sisters (of both sexes) who at heart I am certain derive even a greater satisfaction from what they may be able to deny to the hunter than from any good they may think they are giving to game. A women's club leader once said she'd regret the day the Bobwhite might be taken off the the "song bird" list *because it had been so much fun keeping them there!* Another woman was asked: "Are you against shooting Skeet?" Promptly she retored, "Yes, indeed! They shouldn't be killed either!!!"

Well, I'll "ring off" for tonight with another good-bye and God bless you. Will write again soon. Your mother says to tell you she's glad the cake came through so quickly.

Lovingly,

DAD.

Use Those Rabbits!

By Roger M. Latham*

TWO years ago while hunting in York County on the first day of small game season, our party of three approached a fence corner. There, hanging from the top strand of barbed wire, were four rabbits each with a hind foot impaled on a barb. Close examination revealed that all four were freshly killed and had been hog-dressed in the usual manner.

From experience, we knew what to expect. Imbedded in the neck skin of each were one or more larvae of the rabbit bot fly, commonly called warbles. Apparently these hunters had discovered the parasites on a rabbit shot close by, and, after examining all of their bag, had abandoned those which were infested.

This is a needless waste of a valuable natural resource brought about by a fear that the meat is contaminated or that there is a possibility of contracting some infectious disease from the animal. A rabbit with a few warbles around the head or neck should not be discarded. Absolutely no harm can come from eating one of these after it is cooked. The portion around the neck and shoulders which may be reddened by the bot larvae can be scraped or cut away by those with weak stomachs, but the back and hind legs are almost always clean.

These men had thrown away at least six pounds of delicious meat valued at seventy-five cents or more a pound. I can attest to the foolishness of this action for we took these rabbits home and enjoyed every bite of some of the finest fried rabbit a cook can prepare. In most cases, a hunter would not hesitate to take these parasitized rabbits home and prepare them for the table, if he were sure that they were wholesome and not a source of infection. Take my word for it, they are good and should be utilized and not left to rot in the fields.

The fear of tularemia is another cause of cottontails being wasted. Some hunters have stopped shooting and eating cottontails altogether because they are afraid of contracting tularemia. Actually, the incidence of this disease is very low in Pennsylvania. The risk from handling and dressing a few rabbits during the season is far less than that incurred in driving to and from the hunting grounds and in handling firearms while in the field.

Tularemia is transmitted to man by the bites of the deer fly and the wood tick, or by the handling or dressing of infected rabbits. Many sportsmen diagnose this disease in rabbits merely by examining the liver. If the liver is spotted, the entire carcass is discarded. Even the trained pathologist is unable to do this and must rely upon cultures of the bacterium to be positive. Spotted livers can be caused by at least a dozen different ailments. Various diseases,



mostly of minor importance in their relation to man, liver flukes, and other parasites may be responsible for the spotted appearance.

* Chief of Wildlife Research Division.

A tularemia infected liver is likely to have many tiny whitish spots so closely spaced that the liver appears to be a uniform gray color. These spots when caused by diseases non-infectious to man and flukes are usually much larger and irregularly spaced. As a general rule, it is safe to use the remainder of the rabbit even though the liver is spotted.

Two precautions should be taken in respect to tularemia infection:

Do not handle any rabbit which is obviously abnormal in its actions. A rabbit which appears weak or sick, or one which will not run when touched with the toe, should not be handled.

For those who wish to take all precautions for safety, rubber gloves should be worn when dressing cottontails. But, it should be repeated that the chance for infection in Pennsylvania appears to be slight even without this precaution.

Remember that no known disease or other ailment of rabbits can be transmitted to man by his eating the cooked flesh of these animals. Tapeworm cysts, which resemble fish eggs or cooked tapioca and are found among the intestines of many rabbits, are likewise harmless to man but are a source of tapeworm infestation to dogs if eaten raw. Probably ninety-nine out of every hundred cottontails thrown away by hunters during past years were perfectly good. Let us bury our prejudices and misgivings and USE THOSE RABBITS.

. . . The End

HOW TO SECURE AN ANTLERLESS DEER HUNTING LICENSE

Application forms for antlerless deer hunting licenses can be obtained from any County Treasurer, any hunting license issuing agent, the Pennsylvania Department of Revenue or the Pennsylvania Game Commission at Harrisburg, Pennsylvania.

To obtain an antlerless deer license, first secure your resident or nonresident hunting license, then submit a completed application and the fee of $1.10 to either the County Treasurer *in the county in which you intend to hunt* or to the Department of Revenue, Room 304, Finance Building, Harrisburg, Pennsylvania, *naming the county for which license is desired.*

The antlerless season is December 14 and 15 only. Licenses are not transferable, valid only in the county for which issued, and are void if the holder kills a deer during either the regular buck season or the special archery season.

Although there are three separate deer seasons this year, each hunter is permitted to kill *only one deer* during the combined seasons.



One gets you two that in spite of the forthcoming unpleasantries our buck private friend will sneak another look at his GAME NEWS as soon as the coast is clear. If you have a GI on your Christmas list why not give him a gift subscription to this informative and entertaining sportsman's magazine—he'll gladly risk perpetual K.P. for that!

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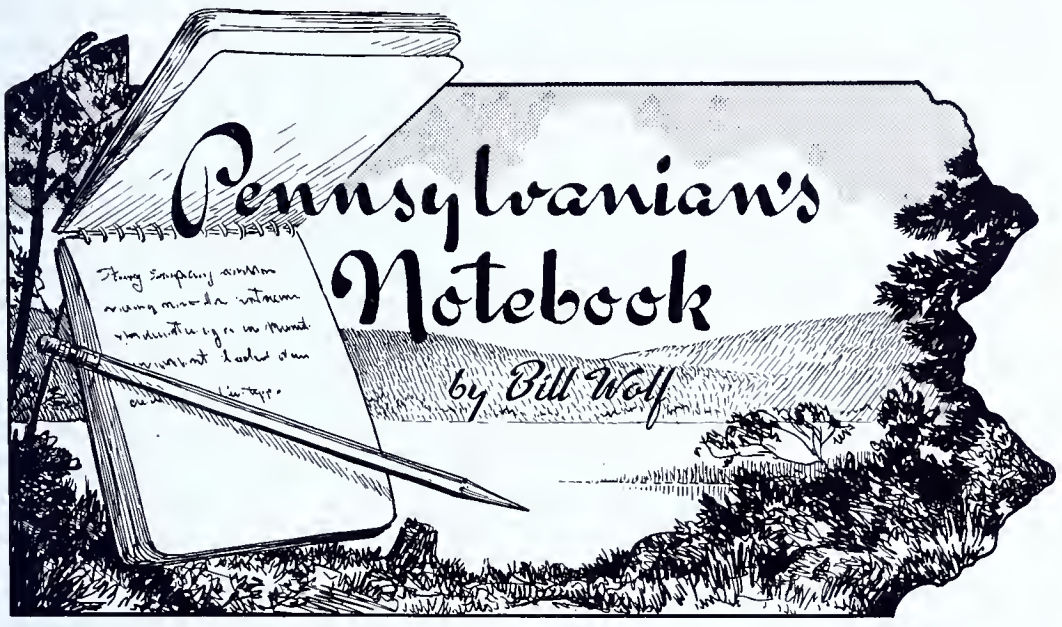
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Pennsylvanian's Notebook

PART V

ONE winter I helped pick Christmas "greens" in the mountains just to see what this oddity among ways of earning money in Pennsylvania was like. Since grouse happened to be in season at the time, I also thoughtfully took along a shotgun just in case; but the chief items of equipment when gathering greens are a strong back and some big burlap bags. The constant bending over to pull the club moss and groundpine that go into making Christmas wreaths and other decorations is a back-breaking job, worse than gathering low-bush blueberries and second only to picking potatoes. Since it is done in typical grouse country, there also is the little matter of climbing up and down hills and scrambling over rocks when seeking "greens."

Most botanists frown upon this practice of robbing the woods to create Christmas decorations. They claim that these plants are so slow-growing that they cannot withstand heavy collecting; but it does provide winter occupation for a number of persons in our hill country, and, therefore, exists—right or wrong.

The city person who hangs a Christmas wreath, bright with red ribbon on the shining green, on a door or window probably thinks the thing is made of some "evergreen" if he or she gives it any thought at all. It's simply something that comes from a store, a florist's or a curbstone vendor, an essential part of Christmas which always seems rather expensive.

Actually, it is the product of a business that starts in November when the green-gathers descend upon the woods with their burlap bags. Their quarry is the club mosses, especially the common club moss *(lycopodium clavatum)* and the flat-branched groundpine *(lycopodium complanatum)*. These two look a

little bit like tiny pine trees growing five inches to a foot high, and usually grow in slightly acid soil which is free of limestone. In other words, they like poor soil. A third member of the same family, shining club moss *(lycopodium lucidulum),* is picked in some regions, but not in the section of eastern Pennsylvania's mountains about which I write.

The shining club moss looks like a piece of green tinsel trailing over the ground, and is not as favored for greens as the other two. Of the others, the common club moss is the prettier and most decorations are made of it.

The Burlap Bag Brigade hunts for productive patches of club moss. Frequently, entire families range through the hills around their homes. The entire plant is pulled up, including its long roots. One reason why I do not believe club moss is in any danger from this harvesting is that the small, young plants almost invariably are ignored and left standing because it isn't profitable to spend the time pulling them. By working fast and gathering only the largest, a person can make a bit of money; but it would take too long to fill a bag with the young plants. When the big bag is filled, it is taken to a road for picking up later, and the harvester starts on another.

When young, club moss is a pale green; the older plants are dark green. This does not matter much, however, since the entire crop is sprayed with green coloring matter by the buyer who usually purchases the individual's harvest. Sometimes buyers roam through the greens country paying a few cents a pound for the moss; sometimes the pickers take it to a central place. I believe that which we gathered several years back was sold to a Hazleton buyer.

After the buyer dyes the greens (since they are gathered in November they wouldn't stay very green until Christmas if he didn't) he, or his workers, make them up into wreaths and decorations which are sold in the cities. Rarely, a country family will do the entire job—picking the greens, coloring them, making up wreaths and selling them at roadside stands or to dealers in Christmas decorations.

There was a time, too, when holly was gathered commercially for Yuletide decorations in this State; but there weren't enough of these highly ornamental trees in Pennsylvania to withstand systematic stripping of their branches. There is a huge holly tree at Indian Steps along the Susquehanna in York County. I remember how surprised I was the first time I saw it, because I had always thought of holly as a rather low-growing shrub, and not as a tree.

Two other plants yielded a harvest for Pennsylvanians before their products were synthesized in the laboratory. These were wintergreen and black birch. The leaves of the wintergreen and the bark of the birch were gathered in the hill country and taken to mills, or "gins" as they were sometimes known, where the oil was expressed for use medicinally or as flavoring. One of the delights of my boyhood was the big mugs of foaming birch beer drawn from the keg and sold for a nickel, and the oil that flavored it then came from the natural source. Both oils are produced chemically now, and there is not much traffic any more in Pennsylvania in wintergreen leaves and birch bark.

I suppose everyone knows this, but a good tea can be made by steeping wintergreen leaves in hot water, or by doing the same to shavings of bark from tender black birch twigs. Both "teas" must be sweetened.

Mention of Indian Steps a few paragraphs back reminds me that the section of the Susquehanna below York Furnace on the York county side is one of the loveliest and wildest along this magnificent river. Or perhaps I am just prejudiced since it used to be practically home country

to me, and I know it a bit better than other stretches.

There are no roads to speak of from York Furnace down into Maryland, just wild hills and the river, always the river. It is good hunting and fishing country, but it takes some effort to get back to it. The Indians must have liked it, too, because they left many traces of their residence. As I understand it, the Indian Steps were simply footholds in the rock bank (now almost entirely covered by the back-up waters of Holtwood Dam) where they stood to spear shad and other fish running upstream in the spring.

Holtwood was the first of the big dams that ended forever the shad runs, which once were a source of profit to many Pennsylvanians, and always a source of wonder when the great schools would come up the river from Chesapeake Bay, driven by the spawning urge to get far up the stream to suitable grounds.

They say Susquehanna shad were especially delicious and large in the sweet water of the river in those early days. The fishermen would watch for a "school" coming upstream, then row out in a skiff, surround the fish with a haul seine with large meshes, and pull the net to shore. Sometimes the nets were hauled in by horses when they were heavily laden with fish.

In 1815 the big Susquehanna shad brought 12 cents and 15 cents each wholesale. The wagons of purchasers were always on hand at the fisheries to haul them away to the cities. The best fisheries were near islands, and the better spots were considered property and the fishing rights were bought and sold. There was a long line of fisheries from York Haven to the mouth of Codorus Creek.

Among the more famous fisheries were Lichty's two sites near the mouth of the Conewago, where 1500 shad were caught in one haul in 1825. There also was a small, two-acre island known as San Domingo which was noted for its fine shad fishing, but the entire island was swept away by ice in the flood of 1830. Farther downstream were the Santa Cruz and Black Rock fisheries, Haldeman's Pool in Chestnut Riffles near the mouth of the Codorus, Forge Island, Bald Eagle and other profitable spots.

I have talked to a number of persons who recall the shad fisheries of the Susquehanna, but the industry was petering out even before Holtwood, Conowingo and Safe Harbor dams stopped it for all time. Extremely heavy netting farther down the Susquehanna in Maryland stopped the great runs into Pennsylvania many years before the dams were built.

These same oldtimers remember the days of the Susquehanna and Tidewater Canal which ran up the west bank from Havre de Grace, Md., to Wrightsville, Pa., to connect across the river at Columbia with the central division of the big Pennsylvania Canal. York Furnace was more than a name then (most of it is under Holtwood Dam waters now), being a thriving village on the canal, and Long Level near Wrightsville (now a popular recreational spot) was just what its name means, a long level between locks on the canal. My great-grandfather, John Thompson, owned and operated boats on the Susquehanna and Tidewater Canal, but the only memento our family possesses from that bygone day is a stone jar in which he carried his drinking water on the boats.

Three things meant spring had arrived, according to persons who lived along the Susquehanna when shad and canal were part of its life. These were, when the ice went out, when the first log rafts came down on the spring floods, and when the "lime boat" appeared on the canal. Ice going out on the river still can be impressive, and we used to try to witness it each spring when I lived near



When the ice moved out it sometimes piled so deep on the shore that it would last far into the summer before melting completely away.

the river. Sometimes it piled up so deep on the shore that, insulated by a coating of mud and silt, it often would last far into the summer before melting completely away. The log rafts are gone. And the "lime boat" is just a memory in the minds of the elders. It usually was the first boat on the canal in the spring, and brought lime and other fertilizers to the farms along the way.

Some of the larger islands in the Susquehanna have been utilized as farms, a somewhat risky business on many of the lower ones since ice jams and floods were annual hazards. The soil is quite fertile, however, and we always thought that watermelons and cantaloupes from the river islands had an especially fine flavor and texture.

There is "wild game" of a peculiar sort, though, on some of the islands. At least there was until ten years ago when I last saw it. It isn't the kind of game you can hunt, but it certainly is big and wild, making it comewhat dangerous to venture on the islands if unprepared for it.

I refer to the cattle placed on the islands to graze. They are allowed to run wild without further care on the owner's part until he is ready to take them off for fattening for the market. As a result, they forget they are domesticated animals and live much like deer or any other game.

One of the most thrilling battles I ever witnessed took place on such an island between two young bulls

which fought over the affections of a cow. It started in the late afternoon and lasted into the night, so that I never did see the outcome.

Three of us were shoving out in a boat for the evening fishing on the lower Susquehanna when we heard the commotion on an island and pulled closer to see what it was all about. We didn't know the island held cattle and were considerably puzzled over the uproar until the two bulls came crashing out of the brush to near the water's edge with the placid cow idly walking along watching the battle's progress.

They went at it with a viciousness surprising to find in cattle, staging a gouging, butting, pushing fight that tore up the ground and the combatants. We were so fascinated by the unexpected diversion that we forgot all about the fishing, and sat in the boat watching until night came and we could no longer see the bulls although we could still hear them.

The lower Susquehanna always has had a reputation as being a rather treacherous stream with whirling waters, shifting channels and shifting sandbars, and lots of rocks. Persons who live along it, and especially before the dams quieted it down, treated it with considerable respect. It supports much life, but it also has taken many human lives.

The swirling action of its waters over the rocky bottom, however, is more than a menace to boatmen, because it has created objects of art which are so commonplace that they seldom are noticed. These are the rocks in the potholes that are exposed in times of extremely low water.

The potholes alone are interesting. They are like chimneys down in the solid rock, some shallow, some very deep. A pebble gets caught in a slight depression in the rock bottom and whirls around and around with the current passing over it. If it is of some stone harder than the bedrock, it grinds out a portion before it disintegrates, and is replaced by another pebble which continues the grinding process. Bit by bit, year after year, the stones trapped in the ever-deeper potholes swirl around and eat out more of the bedrock. The potholes formed usually are narrow, rather than wide, and go straight down.

When low water reveals them, it is interesting to reach down and gather the stones at the bottom of the potholes where possible. At first glance, these stones won't look like much since they probably will be covered with a muddy film, but wash them off. You will find that you have rocks of various sizes, as highly polished as any gem, and just about as pretty. Many are nearly round like marbles, and, since only hard rocks survive long in the mortar that is the pothole, they take a high gloss.

They make beautiful paperweights or, in the larger sizes, door stops, and the owner has the added satisfaction of knowing that nature worked a long time to create them for his benefit. This phenomenom can be seen immediately below Conowingo Dam when no water goes through the dam and the river bed dries up. I consider the Susquehanna as strictly a Pennsylvania stream, even though it heads in New York State and winds up in Maryland.

The contrast between the west and east banks of the Susquehanna from Harrisburg down to the state line is quite marked. The east side is almost flat and uninteresting except for its well-kept farms, but the York County side is magnificent with its blue-green hills that look down upon the river. Perhaps it is just home county imagination again, but I think that York county stretch is one of the prettiest on the Susquehanna. I have hiked among those hills many times in the past, and sometimes the view of the river far below is breath-taking.

I remember one huge old house, abandoned for some years, which,

legend had it, was built by a Lancaster county man high on one of the York county hills out of stone which he had transported across the river. I do not know the truth of this story, but can easily imagine why a Lancaster man might have pride enough in his own county to use its stone for building, but when it came to a site he would choose the lovely York county side! The house was occupied at one time by T. Everett Harre, a writer of novels, one of which dealt with the region.

We used to wind up hikes and hunting trips into these river hills with many a chicken and waffle dinner at the little hotel at Accomac. Fifteen years after I left that region, I went back to the same hotel, and they were serving the same good chicken and waffles. Life can be very good in Pennsylvania, and its old hostelries contribute a large part to its good living.

I have to admit, though, that most of the river is almost as attractive as that York county side. Some of the more spectacular stretches are at the big U-bend near Wyalusing, and the region from Wyoming downstream. Wyoming is the scene of the July 3, 1778, Wyoming Valley massacre when Tories and Indians killed more than 200 settlers there and destroyed most of their buildings. As one bemused friend of mine said, after we had seen various historical sites on a long auto trip: "Our ancestors showed remarkable foresight in picking the most beautiful places in the land for their massacres and battles." Nearly every inch of the Susquehanna has historical meaning, and nearly every inch of it is lovely. I think hunters and anglers may appreciate this beauty more than most persons, because they really get into the heart of it.

. . . *The End*

PERMITS TO HUNT FROM AUTOMOBILES AVAILABLE FOR CERTAIN DISABLED VETERANS

The Legislature recently passed a law authorizing the Pennsylvania Game Commission to issue to certain disabled veterans a special permit allowing said persons to hunt while using an automobile or vehicle.

A permit may be issued only to a veteran who served in the active military or naval forces of the United States, and who is suffering from paraplegia and has permanent paralysis of both legs and lower parts of the body, or who is suffering from hemiplegia and has permanent paralysis of one leg and one arm, or either side of the body, resulting from traumatic injury to the spinal cord or brain, or who has suffered amputation of both feet, or one hand and one foot, sustained through enemy action or accident while in such active military or naval service, and who qualified for a hunting license under the provisions of Article III of this act.

Veterans desiring to hunt from an automobile, and suffering from either of the injuries described in the law, may write to the Pennsylvania Game Commission at Harrisburg for an application for such special permit.

The permits will be issued to those eligible under the law, without charge.

Squirrels for the Waiting

By Don Shiner



GRAY squirrel country means a lot of country and a lot of squirrels. It can be found over most of Pennsylvania's woods as well as in practically every eastern state. For the Gray, the squirrel hunted by many thousands of nimrods, surveys a vast domain and calls it his own.

He prefers the tall timbered sections, but he can also be found in the scrub trees along the fence rows of almost every Pennsylvania farm. Yet, there is one thing practically all good gray squirrel regions have in common, and that is an assortment of walnuts, hickories, oaks, tall beeches and hemlock trees. For the gray squirrel's land is the nut tree land—tall trees and big timber, hemlock groves, as well as land near the farmer's corn fields.

These squirrels are as American as are turkeys. Both were found in abundance on this continent when the Pilgrims arrived back in 1521. Pennsylvania had more than its share of both then, but the clearing of land and the disappearance of the chestnut tree caused their numbers to slowly diminish. The squirrels seemed to hang on, though, feeding on the other nut trees, the buds and young branches in the spring, and of course, the corn of the nearby cultivated lands.

Many hunters cut their eye-teeth on a squirrel gun and many youngsters are doing that today. It is a game that still is tops for fun and has a charm rarely found in other hunting. It takes much skill to stalk a gray squirrel and it gives a great



deal of satisfaction to topple one from a tall tree. But regardless of its many charms, hunting for these bannertails requires the nimrod to study and observe the squirrels, for their ways, like the timber doodle and grouse, are well defined but often not too well known by the average hunter.

They are as much fun for the hunter to watch and study each season of the year as they are during the autumn. He will find that squirrels, like other creatures of the wild, have a good set of plans drawn up for each day. They are creatures of habit and their plans might read something like this: feed and drink between the hours of six o'clock and ten, rest and play from ten o'clock 'till four, then feed from four o'clock to seven and finally, sleep from seven until six o'clock the next morning. This takes place from dawn to dusk and the wise hunter or the young nimrod will do well to remember this routine and to take advantage of it when seeking Sammy Squirrel.

As the sun peeks over the eastern horizon, the squirrels stir from their beds in a lofty nest or hollow tree, scamper out on a nearby limb and test the weather. If their keen noses tell them it will be fair, they may pause a few minutes to groom and comb their plume-like tails before starting out for their morning meal.

This distinguishing appendage is well cared for and there is a reason for this loving ownership. Scare the next squirrel you see and you will probably get a hint as to what it is used for and why a squirrel is lost without one. It is used as a rudder much like a tail on an airplane While the squirrel is scrambling over the ground its tail is stretched out and is flicked in the direction it wishes to turn. While it is scampering through the tree tops, jumping from one limb to another, its tail is flicked this way and that and helps him keep his balance, much like a rope walker uses a balancing staff. And should he accidentally lose his grip and fall, something which is indeed rare, it doubles as a parachute. Not that it would let him down without a jar, but it would break his fall. Pride of ownership is one thing, but squirrels groom their tails for better performance.

Usually it is after this chore of tail-grooming that Sammy Squirrel sets out for feed. Early in the morning—from six until ten—he and his neighbors will travel to and from the neighboring corn fields or some walnut, hemlock, hickory or acorn tree, or they might dig up one or two nuts that they hid away in the past beneath some root or stump. These are the hours that the nimrod should be on his toes, waiting quietly for the squirrels to come his way. It is useless to pursue them in the dry woods for a snapping twig underfoot or the shuffling of leaves warns the tree climbers of some intruder long before the hunter comes upon the scene. The hunter may see numbers of squirrels, singly or in pairs, scampering through the leaves and tree tops and he should remain silent and await their coming his way.

It has often been said that all wildlife needs is a home and some food. Gray squirrels are no different in their needs. They like tall timber, tall enough to seclude them high in their limbs, and of course, they prefer the nut trees, the tall beeches, oaks and hickories. Woodlots made up of these trees are the ones hunters should look for and pass up those which have only small scrubby trees or brush growth. Then too, if a corn field is nearby, this makes it all the more appealing to Sammy Squirrel.

Having their early morning meal, squirrels will then return to their abode. Some may play about the tree tops, some may curl in their nests or dens to sleep. Others will climb out on some lofty perch high in the tree tops and there sun them-

selves. Naturally they prefer the nice warm sunny weather and will keep active longer on these days. Cold, cloudy, windy and stormy weather keeps them close to home and often they will not venture out for days. Quite often supplies of nuts are kept in hollow trees nearby just for these occasions when the weather is not suitable for venturing out of their dens.

Now squirrel hunting may seem like a lazy man's sport, just sitting on some not too conspicuous log or stump and waiting for these bannertails to show themselves. It's not as easy as it looks, though. In the first place it requires getting into the woods early, at the very crack of sunrise. The hunter should place himself so that he can have a good view of den or nut trees or runways that lead to neighboring corn fields. There he should keep silent, motionless and waiting, listening for a nut falling from a tree, or the chattering of one squirrel to another, or the noise of a squirrel scampering through the leaves. Squirrels generally announce that they are close by in no uncertain terms. But let them hear the slightest noise and they can freeze into a statue or disappear even under the eyes of a very watchful hunter.

If the noise is out of the ordinary or is in any way alarming, Sammy Squirrel will freeze and hold his rigid position for minutes until reassured that all is right again. Again, he may flatten himself against a tree limb and seem to become a part of the tree. The squirrel can cling to a limb or a tree and remain so invisible that one is often lead to believe that the trees and the squirrels have a mutual understanding. The trees seem to open and swallow the squirrel, making it disappear right before one's eyes.

I learned that they can vanish into thin air at a moment's notice when I first became interested in hunting. Walking silently along an old creek bottom, I saw a gray squirrel scampering through the leaves and it bounded up the first good size tree it came to. I hurried to that tree and saw the squirrel perched tightly against one of the limbs, so silent and motionless that it looked like a bump or knot on one of the branches. I moved on the opposite side of the tree and then the bump disappeared. Making a complete circle around the tree did not allow me to see the squirrel for it completely disappeared. It seems as though the limb had opened and swallowed my quarry.

That clever squirrel had pulled a fancy trick which every squirrel hunter knows. It had moved around the limb as I walked around the tree, keeping the tree limb between itself and me. Not encountering many squirrels before this time, and not being familiar with this trick of theirs, I was completely swindled out of a squirrel pie by mother nature, who so graciously taught Samny Squirrel the how's and wherefore's of survival.

But there is a way to beat them at this trick. The next time a bannertail pulls this disappearing act, just toss a hat, a coat or a piece of stick on the opposite side of the tree. The squirrel, alarmed by this commotion will sometimes move to the other side of the limb within plain sight of the hunter. Two hunters are a great aid to one another while hunting squirrels. Moving about on opposite sides of the tree they will not allow the squirrel to hide himself for long and sooner or later one of the hunters will get a shot.

Other times when Sammy Squirrel is startled by a hunter, he will appear motionless as a statute, and remain in full view of the hunter. Being so silent and still, the squirrel often escapes suspicion. If he happens to be in a tree and freezes he often looks like a knot on a limb.

Searching a tree for a squirrel that has been warned of a hunter's presence is a job that takes plenty of time. Often a warned squirrel will take off for the nearest den or hiding place, but more often than not, it will crouch low and motionless hoping that it will escape detection. A 'scope or a binocular is handy for spotting them at these times.

The hunter's alertness is pitted against an intelligent creature of the wild when squirrel hunting, and the nimrod should conceal himself whenever possible in the shadows of the trees and tree trunks. Bushy tails have excellent eyes, ears and noses. Their eyes, though, cannot pierce the shade of a tree when they themselves are in the bright sunlight. They fail in this respect, just as the human optical equipment fails.

Though they may see a hunter leaning against a big tree or sitting on a log some distance away, they are quick to assume that it is part of the surroundings, provided they do not see any movement or catch the hunter's scent.

It is best to hunt against a wind or a stiff breeze for the squirrel, like the deer, can quickly catch the scent of man and will scurry for cover immediately. Their sense of smell is developed to the extent that they can detect a buried nut even when a foot of snow covers it. Contrary to the popular belief of many hunters, the squirrels do not detain in memory those places where they have buried a supply of nuts. They search them out with their keen noses and often it has not been one that they themselves have buried or hidden. It may have been cached by another squirrel or a bluejay. In this respect squirrels are said to be one of the greatest aids in reforestation. Many of these acorns, walnuts, pine cones, hickory nuts and others that have been buried and forgotten sprout in the spring and grow into new trees.

Now after frequently hunting these banner-tails, I've come to the conclusion that the best gun and ammunition for them is the .22 long rifle. One of the ideal guns for the average nimrod is the combination .22-410. The .22 is all that is needed to bring home the bacon, but if a miss is made or the squirrel is only slightly wounded, most of us don't stand much of a chance with the rifle. The .410 barrel can then be relied upon for bagging the fleeing target. This outfit, when fitted with a scope, is the perfect hunting companion for the squirrel hunter.

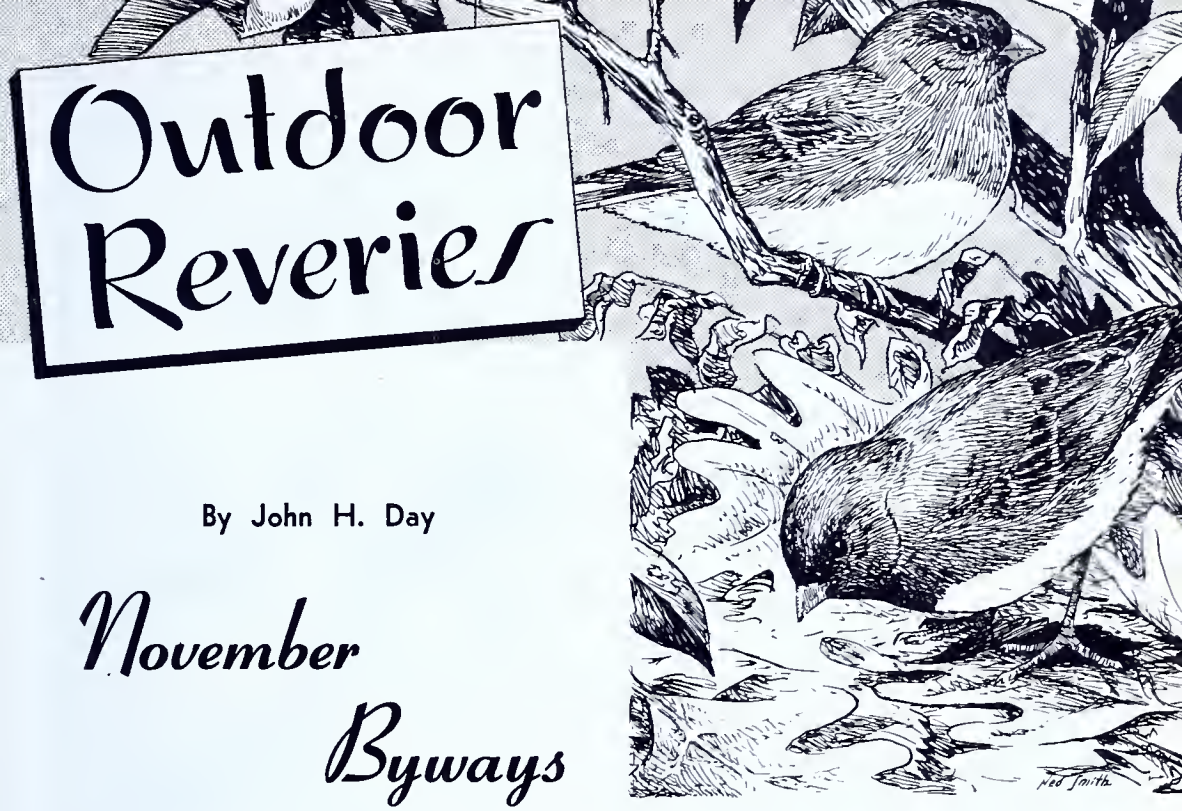
There's a code of ethics too in squirrel hunting. No squirrel is ever shot that has only his head and nose sticking out of a den hole, nor should the hunter ever shoot into a nest. Neither gives satisfactory results. A shot in the nest may kill a squirrel instantly but few will ever fall out, and the hunter all too often leaves dead game behind. Likewise, shooting a squirrel that has only its head and nose showing from a den is not satisfactory. If the hunter chances a shot, even scoring a direct hit, the squirrel will often simply fall back into the den and will be out of reach. In both cases, it is better to wait him out. Sooner or later the quarry will venture out and when he is perched on a limb, after being reassured that all is right again, he then offers a much better target. Squirrels are for the waiting.

Hunting squirrels is a pleasing sport for the nimrods in the woodlands of Pennsylvania. They are a change from rushing through corn fields trying to flush a pheasant or climbing through the briar patches for cottontails.

Gray squirrel country means a lot of country and a lot of pleasant moments for the gunner. They gave our forefathers many delightful hours of hunting and many tasty dinners, and they will do the same for the modern nimrod who gives them a try.

. . . The End

Outdoor Reveries



By John H. Day

November Byways

NOVEMBER'S searching gusts have housecleaned every nook and corner of the timberland. The countryman walks through the denuded thickets and sees now revealed many of the domestic secrets the feathered folk kept so skillfully hidden during the warm months. In this thorn bush the weathered framework of the thrasher's nest; there just off the pathway the cozy cradle of the vireo. The brown cocoons of the wild cherry moth swing clearly revealed and the shellacked egg case of the big praying mantis gleams in the sun on its berry cane foundation. November's byways are ever exploratory pathways to new discoveries.

The gray Japanese lanterns hung in the trees by the white-faced hornets are now disclosed to public view. With the first hint of the knives and axes of Winter their occupants moved out, leaving these "outworn shells" to the idle markmanship of stray hunters, the acquisitive hands of small boys or the housekeeping instincts of the white-footed mouse.

One sunny day last October I pushed open the door to an abandoned outbuilding on an abandoned farm deep in the hill country. I almost poked my head right into a monstrous hornet's nest built square against the ceiling. A month earlier I would have paid dearly for that rough intrusion.

When the grapes were hanging sunripe in the arbors on a neighboring farm we noticed many of the pretty white-faced fellows tippling joyously, and soon traced them down to a tremendous paper castle hung up in a cherry tree convenient to their grape juice supply. These busy little colonists knew the art of making waterproof paper long before Egypt turned from her stone records to the crude papyrus scrolls.

Not the least remarkable thing about these paper nests is the fact that they can be cut down and brought into the house with impunity. It seems strange that so admirable a construction, the result of the combined labor of an organization which exceeds anything man has ever attained, should be so summarily discarded and forgotten. But the

law of the hornet clan dictates that each new season must be greeted with new houses.

Wood scrapings from weather-beaten old barns, or slab piles, or dead snags in the forest, are chewed to a pulp and mixed with saliva in the proper proportion to wind up as strong gray paper when trowelled onto the expanding nest. The slim brown wasps who build the open combs beneath the eaves of our house spend hour after hour in the garden rows scraping wood fibres off the tomato and dahlia stakes.

While the drones are stingless and generally lazy louts, the worker hornet is a white-faced fury when defending the nest. She can hit with the speed and accuracy of a flying bullet, and with similar devastating results. But she is a useful citizen, a great destroyer of flies and mosquitoes. On long midsummer evenings when the wild folk make merry in the thickets, her gray lanterns swing above the carnival, lit by the fireflies' dazzling gleam.

Each November the countryman renews acquaintance with a hardy voyageur who leaves his favored Hudson Bay country to spend the cold months rollicking through the thickets and along sun-warmed southerly hillsides. Clad in Quaker gray, with white waistcoat, his costume matches the "leaden skies above, snow below" weather which follows close on his heels when he comes down out of the bush country. He sports pure white outer tail feathers, which he shows off nervously in flight. Every Winter roadside knows his cheerful, good-natured banter as he pals around with his friends the tree sparrows and the chickadees.

This friendly fellow is the slate-colored junco, the snowbird who makes merry in the weedy waste places no matter how fierce the wintry blasts. If you don't know him you have missed meeting one of our solider citizens.

Watch for the junco on any Winter stroll which takes you beyond the city limits. Look for an active, dark little bird about the size of the English sparrow. When he flies those white outer tail feathers are a sure field mark. Once you have met him you'll never forget his infectious good cheer.

The junco nests on the ground, preferring to place her cozy cup on a mossy bank among somber hemlocks. An occasional pair will nest along the higher ridges in the mountain country. While on a botanizing excursion in the high country during a recent Summer I first heard the song of this courageous bird—something like the melody of the chipping sparrow, but delivered more slowly.

There is a fellowship in the November woods that is lacking in almost any other season of the year. The press of family affairs—courtship and feeding hungry little maws—give the little folk no time to bother with chance intruders. But in November, when a man can sit for a half hour on a log and not be pestered by flies and gnats and mosquitoes, the social hour has surely arrived.

This loosely-knit potluck society will meet almost daily in the heart-warming fellowship of the November woods. The countryman will cruise for hours through the timber, meeting nary a bird nor squirrel. Then suddenly he will be engulfed in the convivial activity of the feathered entourage which has brought together all the wildlings in that immediate precinct of the countryside.

It may be a concrete example of the adage that misery loves company, but the countryman views it as the spontaneous camaraderie of confirmed feathered extroverts.

When mid-November turns on the spigot the countryman knows that the twilight of the year is at hand. Soon the timberlands will be deep in slumber—tucked in snugly for three months of rest and meditation

in preparation for the wondrous awakening into a bright new morning.

The countryman also knows that there are no wayside trails so damp and dismal as those of a sodden November afternoon. He dons half



boots and slicker and crawls bravely through the fences on a cross-fields roundup to see what he can see. Hardly 30 feet beyond his own fencerows he blunders through a tall weed patch. A great poke weed, clammy and dripping, slips off a berry cane and slaps him full in the face.

During this November "twilight" the countryside stretches and yawns and battens down all hatches for the long night ahead. Tiny cork dams seal off every leaf scar. Provisions are stored away in every root and seed. The steady drizzle tamps the leaf mulch blanket snug and warm about the roots along the forest aisles. Bass and pickerel seek out the "bigger" water. Mr. Gumpox, the toad, digs in to his bedroom and the snapping turtle sinks out of sight in the muddy stream bed.

There is a great rattling of seeds along the byways these November days. Teazel heads, jimson weed pods and the various and sundry other "rattlers" are chock-full of seeds, waiting patiently for heavy storms or some blundering animal or outdoorsman to catapult their contents to fresh fields. The countryman brushes by the little bladdernut, and comes back to hear again the castanets of these shiny brown seeds in their paper-thin canoes.

November was the ninth month on the old Roman calendar, which started with March. The Anglo-Saxons called it the "blood month," since it was during this time that they cut down wild game and slaughtered their domestic animals for Winter feasting.

The November countryside is overrun by mushroom hunters. I see them almost every day, now, with chip basket on elbow and knife in hand, combing the wooded hillsides for the tasty chanterelle, and a smaller more ruddy fellow which I think is one of the boletus clan. It is surprising how many gourmands are keenly aware of these savory denizens of damp, woodsy places, where they are found growing about decaying stumps and beneath the leaf mulch on the forest floor.

Most of these "mush-a-room" hunters are elderly folk who have come to this country from across the water. In their native lands the edible fungi have for centuries been an important food item, and they have brought here their love for these odd woodland "plants." How they can tell our edible varieties from the deadly poisonous is beyond me, but they seem to know instinctively which to take and which to reject.

Foolhardy folk with more appetite than prudence are loud in their praise of the epicurean delights of

the morel, the puffball and other members of the mushroom citizenry. They can have them all. I'll stick to the good old fashioned cow pasture mushroom with the pink gills. Sudden death lurks in the venomous juices of many of our commonest varieties, particularly the amanitas, and the uniformed should leave them all severely alone.

When the leaves turn red and gold, delighting both eye and spirit, the all-golden Indian Summer comes to lie in dreamy glory across the land. Migrant geese linger in the stubble fields and laggard crows flap lazily athwart the sky or perch contentedly upon the treetops as if they cared to seek no clime more genial. The countryman's cup surely runneth over during this Autumn benediction.

Squaw Winter always precedes the real Indian Summer. A short cold snap which pushes the mercury below the freezing point; then the halcyon period of Autumn which will always in some way be associated with the Indian. The memory of the redskin pervades the woods. The smoke of his campfire seems again in the air. The hills on which he hunted are red and yellow and dusky, like himself.

The Hoosier poet found nothing so rare as a day in June. Then indeed come perfect days. But the countryman who walks the wayside trails around the calendar knows that it's only a radiant Indian Summer day that sets the gypsy blood to boiling.

There's a grimmer side to Indian Summer. Our pioneer forebears hated and feared these few weeks of mellow sunshine between the first sharp frost and the dark days of Winter. For it was then that the redskin warriors came silently and savagely in sudden ruthless raids.

After the Indian Summer has run its course and the legions of Winter have driven across the countryside, November changes its mood. The air tastes of frost and the sunlight is so diluted with darkness that the forenoon seems all morning and the afternoon all evening. The colors fade from the landscape. The countryman hears the icy challenge keening in the upper air and knows that the time has come to gird against the dark and dreary days when "the north wind doth blow."

. . . *The End*

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233)

Of PENNSYLVANIA GAME NEWS, published bi-monthly in September and March, monthly in all other months, at Harrisburg, Pennsylvania for 1951.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa. Editor, Willard T. Johns, Jr., (On Military Leave). Managing editor-Acting editor, E. Stanley Smith, Harrisburg, Pa. Business manager.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member must be given.) Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is requried from daily, weekly, semiweekly, and triweekly newspapers only.)

E. STANLEY SMITH

Sworn to and subscribed before me this 26th day of September, 1951.

(Seal). LUCILLE A. STROUP, Notary Public.

(My commission expires March 5, 1955).

Mercer County

Thriving Industrial Center

Fifteenth In a Series

NOTE: This center sheet can be removed, if desired, without damaging the magazine, by loosening the two center staples.

Mercer County, bordering on the Ohio line for 32 miles, was formed from a part of the original Allegheny County, and named in honor of a hero of the Revolutionary War.

Land Area

The county contains 435,776 acres of which 97,077 acres are forested and 338,699 acres are in non-forest land. There are 1,284 acres of publicly-owned land in the county, of which 946 acres are State Game Lands.

Topography

Much of the eastern edge of the county is hilly and wooded and numerous small wooded areas are scattered throughout the northern portion. The remainder is predominantly farm land interspersed with extensive swamps. The county is drained by the Shenango and Little Shenango Rivers, Sandy Creek, Neshannock Creek and French Creek.

Transportation

Railroad transportation is furnished by the Pennsylvania, the New York Central, the Erie and the Bessemer & Lake Erie. The Perry Highway (U. S. 19), U. S. Route 62 and other important routes traverse the county, which has 616 miles of improved State highways.

District Game Protectors

William Lee, 301½ Seeley Avenue, Oil City, has jurisdiction over Greene, Sugar Grove, Salem, Sandy Creek, Deer Creek, French Creek, West Salem, Hempfield, Otter Creek, Perry, New Vernon, Mill Creek, South Pymatuning, Pymatuning, Delaware, Fairview, Lake and Sandy Lake townships.

Samuel K. Weigel, 428 E. Butler St., Mercer, has jurisdiction over Jefferson, Cool Spring, Jackson, Worth, Hickory, Shenango, Lackawannock, East Lackawannock, Findley, Wolf Creek, Wilmington, Springfield and Liberty townships.

Fish Warden

Robert J. Bielo, 19 Penn Avenue, Greenville.

Agriculture

The county ranks high in agriculture, particularly in dairy farming, but the population depends chiefly upon manufacturing for employment.

Industry

The principal industries are the manufacture of metals and metal products, food and kindred products, and mine and quarry products. Natural resources include bituminous coal, oil, natural gas, silica, sand, and stone. Chief products are electrical machinery and apparatus, iron and steel ingots, pig iron, iron and steel bars, pipes, and tubing, railroad and electric railway cars and parts, steel castings, gasoline engines, structural steel, and steel and iron plates.


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Plymatoning Cr.
Bluff Run
Conneaut Lake Outlet
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Little Shenango River
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Autumn Foods...

FOR WILDLIFE

Game News Educational Pamphlet can be removed by pulling middle staple.

Kodachrome by Ralph Cady



PENNSYLVANIA GAME COMMISSION
HARRISBURG, PA.

Some Nut-Producing Trees and Shrubs Beneficial to Forest Creatures

Autumn is the season that clearly reveals the value of mast-bearing trees as producers of food for wildlife. The leaves are rapidly disappearing and the nuts or other fruits are now clear to the view of even the most casual observer. Investigation underneath most mast-bearing trees at this time of the year will, generally, be rewarded by the discovery of nuts which have already dropped to the ground.

Mast is particularly valuable as wildlife food because it contains a high percentage of carbohydrates which produce heat and energy. These are important to both game birds and animals because they provide the essentials necessary to withstand the storms and cold weather of winter months.

The protein content of nuts, also, is high. This is necessary in rebuilding body tissue. So the value of such food for wildlife cannot be overemphasized. A comparison of mast with other forms of wildlife food shows it to be the most important.

Years ago the native chestnut was the staple fall and winter food of deer, wild turkeys, grouse and squirrels. It was our most important wildlife food. This was proven when the Chestnut Blight destroyed it. Blight resisting oriental strains are now being grown in limited numbers throughout the State, but even with the best success it will be many years before a strain is developed to take the place of the old native American chestnut tree.

Since the disappearance of the chestnut, the most important mast-producing trees in Pennsylvania are the oaks. These, too, are threatened by the Oak Wilt, a disease which has played havoc with oak trees in Minnesota, Wisconsin, Iowa, Missouri, Illinois and Indiana. A single infection has been found in Pennsylvania and every effort is being made to locate any others, which might have started, before the disease gets out of control.

Perhaps a discussion of mast-bearing trees, by species, would be the most instructive approach for our readers. We will start with the chestnut and describe each in its turn.

Chestnut was our most valuable forest and wildlife tree before the advent of the Chestnut Blight which completely destroyed it. Sprouts of native trees are still to be found but unless the disease is soon conquered even these may perish.

The U. S. Department of Agriculture, Bureau of Plant Industry, has been experimenting for years with Oriental chestnuts. Lately various State Departments also have been active in this respect.

The Oriental chestnut tree is usually a short, wide-spreading tree. The nuts of the Chinese variety compare favorably with American chestnuts in both size and flavor. The Japanese variety produces a larger and less flavorsome nut.

Oriental chestnuts have been exposed to the blight for hundreds of years and have developed a high degree of immunity to it. They, and especially the Chinese variety, hold considerable promise as future important wildlife food.

More recently experiments, by the Federal Government, have shown that it may even be possible to develop a strain that will go far towards replacing the American chestnut as a forest tree.

In the meantime, the Pennsylvania Game Commission is raising Oriental chestnut seedlings and planting them for wildlife food.

Yum, yum, says the Gray Squirrel as he's about to crack a Hickory nut





CHESTNUT OAK

A little brother of the chestnut, the *Chinquapin,* is probably no less in importance as a game food than the chestnut. However, its natural range is confined more to the southern part of the State. The nut of the Chinquapin is very small and sweet. Chinquapins are susceptible to Chestnut Blight, although that disease has not been as destructive to them as it has been to the chestnut.

The Oaks, of which there are many, in addition to being valuable timber trees, have an equal importance as food bearers for deer, wild turkeys, grouse, bears, raccoons and squirrels. Crumbs dropped by squirrels when they are enjoying acorn dinners are relished by quail and songbirds.

The oak, as a producer of game food, can be considered in two classes. The first is the white oak group, comprising such species as the white oak, swamp white oak, post oak, burr oak, chestnut oak, and scrub chestnut oak. All of these mature their fruit in one year, and as a rule, the meat of the nut is sweet. The nuts of these are considered equal to the best of cultivated grains in their food value to birds and animals.

The second group is the black oak group which consists, among others, of the black oak, red oak, scarlet oak, pin oak, and scrub oak. In this group the fruit matures the year following flowering. The nut, as a rule, is bitter and considered inferior to those in the white oak group as wildlife food producers. Therefore, in planning for mast crops, in connection with food and cover development for wildlife, first consideration should be given to the white oaks. However, a plentiful supply of acorns of either group will fatten animals and birds and materially assist them to withstand the rigors of winter. The fruit (acorns) is available during the entire winter and can be secured anytime, provided snows do not become too deep.

The Walnut family comprises the walnuts, the hickories and the butternut. All of these reach a large size, are attractive ornamentally, produce valuable wood, and yield delicious nuts which are used by man and many wild animals, especially squirrels. Because of these attractive qualities, they have been cut so extensively that the supply of them has been seriously reduced. Therefore, it is especially desirable to make every effort to propagate these trees, by planting their seeds and by any other method which will assure success. A description of each follows:

The Black Walnut is one of the most valuable timber trees native to Pennsylvania. It yields delicious nuts which are produced in large quantities annually. Black walnut is a very exacting tree as to soil and location, preferring rich, moist soil, in rather warm and low areas. It requires much light, but will endure some shade while young. It does not thrive in the colder portions of the State nor at dry locations. Therefore, great care should be used in selecting suitable sites for planting the seeds.

The Butternut does not attain as large a size, nor produce as valuable timber as the black walnut, but bears nuts which contain delicious, sweet and oily kernels. These are frequently preferred to black walnuts by both man and wildlife. This tree is found locally throughout the State in rich bottom land, and on moist fertile hillsides. It will thrive better than the black walnut at higher elevation, and in the northern part of the State.

The Shagbark Hickory attains the largest size of our native hickories and produces delicious nuts which are sold commercially. It is found on rich, moist, well-drained soils such as those along streams and the borders of swamps, but is more common on hill slopes and even rather rocky hillsides. It is light-demanding and will not thrive in dense stands, unless it dominates the neighboring trees. It is

BUTTERNUT





BLACK WALNUT

a prolific seeder and may be propagated extensively but should not be planted in the colder and mountainous parts of the State.

The Shellbark Hickory is much the same in appearance as the shagbark hickory but does not attain the height of that species. It also is found along river bottoms, even those which are inundated for long periods of time.

The Mockernut Hickory is a medium-sized tree which produces a fruit similar in appearance to the shellbark hickory, but upon opening the shell one finds a very small kernel. It is rare or absent in the northern part of the State and should be planted only in rather low, fertile areas in valleys and the foothills of the mountains. The fruit is practically valueless to man, but furnishes satisfactory food for wild animals of the forest.

The Pignut Hickory is found on dry ridges, hillsides and mountain slopes. It will grow in all parts of the State on a great variety of soils. The fruit is variable in form, and contains small, bitter kernels. This species may be planted in the mountains where no other hickories or walnuts will thrive.

Beech is also a mast producer valuable as a wildlife food. Unfortunately, the supply is produced only infrequently and is therefore not dependable. Despite this, it is relished when available for the kernels are small, sweet and nutritious. The nuts are relished by many forms of wildlife, including deer, bears, squirrels, grouse, wild turkeys and raccoons.

This tree attains a medium height. It prefers deep, fertile, well-drained soils, but will grow in a variety of situations. It is commonly associated with the northern hardwoods (beech, birch, maple, etc.) and is also found with white pine and hemlock.

Hazelnuts or Filberts are mast-bearing shrubs three to eight feet high. The fruit is sweet and avidly sought after by both man and wildlife. This shrub grows on well-drained, loamy soils and is usually found below 2,000 feet elevation in the valleys, hills and lower slopes of the mountains. It is a thicket-forming shrub but seldom bears fruit in the shade.

The best time to plant the seeds of walnuts, hickories, oaks, etc., is in the autumn as soon as the fruit is ripe and falls. Wait until the nuts are fully ripened. The seeds should be planted at once for their vitality is impaired or even destroyed if they are allowed to dry. If fall planting is not possible, the seeds should be stratified in moist sand and kept until the following spring.

To stratify seed, take a box or other container, bore or cut a few small holes in the bottom, and bury it in the garden so that the top will be about even with the top of the ground. Place about two inches of damp sand in the bottom of the box, then a solid layer of nuts, then another two-inch layer of sand, another layer of nuts, and so on until the top layer is moist sand three or four inches deep. Then make a mound of garden soil six or eight inches over the top of this. To prevent damage from squirrels or other rodents use wire hardware cloth on the top and outer edges of the box, or better still, use a tin box covered with wire cloth. In either case allow the box to remain in this manner until spring when the frost is out of the ground. At that time lift the nuts and plant.

Seeds should be planted where the trees are expected to remain, because walnuts, hickories and oaks are difficult to transplant on account of the long tap-roots which develop during the first year. Even when great care is exercised in transplanting, the tap-root is frequently cut or injured to such an extent that the future growth of the tree is impaired. The hulls of

the seed should be broken open or entirely removed before planting.

The best locations to plant the seeds are in old, abandoned fields, along fencerows, and open spots in the forest. Select moist, fertile and open sites. In planting, make a hole about two to four inches deep in the ground and drop a nut in it, then cover with ground.

Species such as chestnut should be left to those who have specialized in its reproduction. Oaks and beech are generally reproduced naturally in sufficient quantities. But walnuts, hickories and hazelnuts are not present in the quantities desired. Your help in planting them will be a welcome supplement to the Commission's wildlife food and cover development program, and especially aid in providing food for squirrels, an important game animal which is too often taken for granted.



HAZLENUT



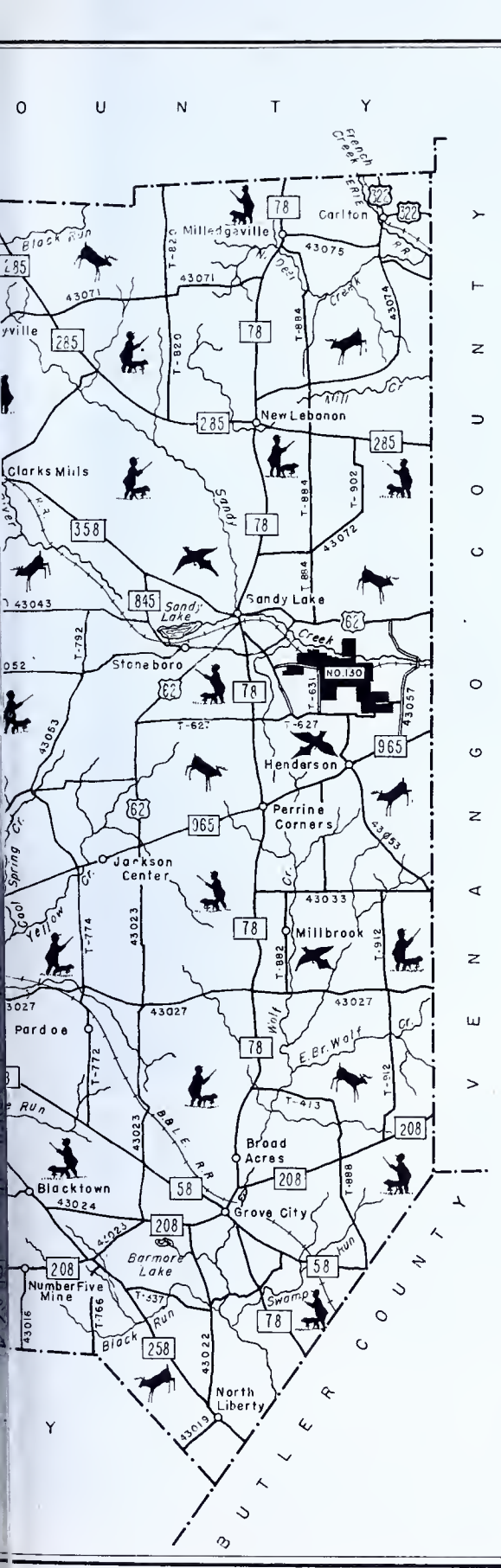
Deer often search beneath the snow for acorns



CHESTNUT



HICKORY NUT



KEY

- County Seat.
- Farm-Game Project. (Open to hunting)
- Game Protectar's Headquarters.
- Deer Hunting
- Small Game Hunting. { Grause, Pheasant, Rabbit & Squirrel.
- Railraad.
- Stream.
- State Game Land.
- 78 — Pennsylvania Route Number.
- 19 — U.S. Highway Raute Number.
- 43072 — Legislative Route Number
- Township Route. (T-631)



PENNSYLVANIA
GAME COMMISSION

MERCER COUNTY

PENNSYLVANIA

Scale in miles

L.A.M - 1951

Historic

In 1800 Mercer County was formed from a part of Allegheny County. It was named in honor of General Hugh Mercer, a Revolutionary hero who was fatally wounded in the battle of Princeton. The county seat of Mercer was formerly an Indian village of importance. It was laid out as a town by John Hoge, and in 1824 General Lafayette was entertained in Mercer on his visit to the United States.

Among the early settlers in Mercer County the Scotch Presbyterians predominated. Later Italian workers added to the populations of certain sections.

James Pierce, a prominent citizen who helped develop the bituminous coal industry, was a resident of Hickory township.

The section north of Pittsburgh and west of the Allegheny river was set apart by the government for soldiers of the Pennsylvania Line regiments who fought in the Revolution. An act of Legislature divided the territory with a line due west. Land south of this line was known as "Depreciation Lands," and north of it as "Donation Lands." A number of land companies were active in the region and the first settlers for the most part came from Allegheny County. The first courts were held in the home of Joseph Hunter in Mercer in 1804. The first mill in Mercer was built by the Junkers family in 1805.

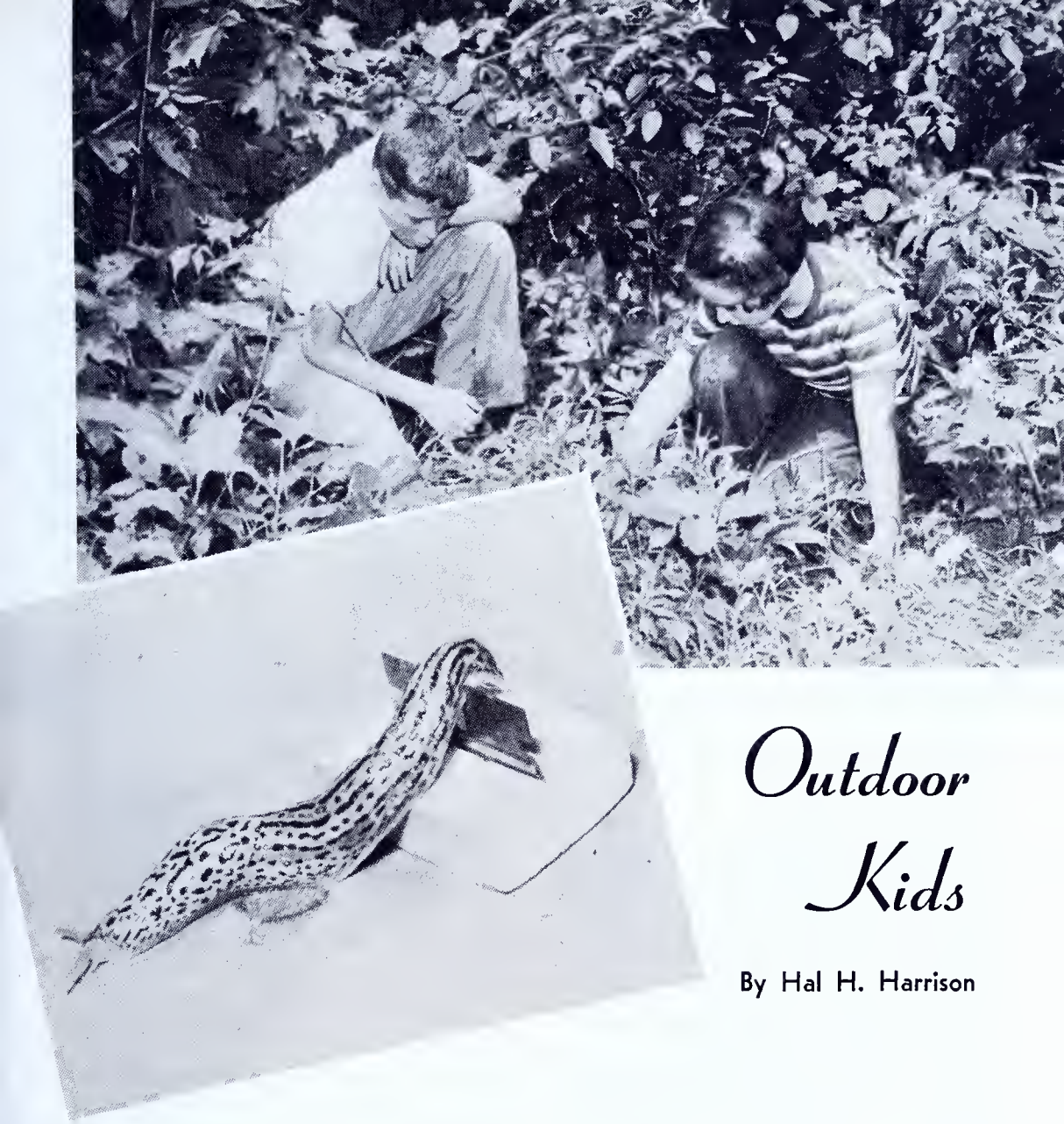
Recreation—Hunting

Mercer County offers fair deer hunting in much of the northern and eastern parts, as well as in small patches of woodlands scattered throughout the county. Pheasant and rabbit hunting is excellent in the agricultural areas and quail are reasonably plentiful. It is interesting to note that fox squirrels are found along the western border of the county and grays in much of the remainder. One State Game Lands tract, Number 130, located near Sandy Lake, comprises 946 acres.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stock waters) include: Crooked Creek, brook trout, Osgood, 3 mi.; Deer Creek, brown and rainbow trout, Milledgeville, 4 mi.; Lackawanna Creek, brook trout, Mercer, 5 mi.; Mill Creek, trib. French Creek, brook trout, New Lebanon, 5 mi.; Mill Creek, trib. Cool Spring Creek, brook trout, Grove City, 3 mi.; Little Neshannock Creek, brown and rainbow trout, New Wilmington, 5 mi.; Little Neshannock Creek, W. Br., brown and rainbow trout, Hermitage, 4 mi.; Pine Run, brook trout, Mercer, 4 mi.; Wolf Creek, E. Br., brook trout, Grove City, 3 mi.; Wolf Creek, N. Br., brook trout, Grove City, 3 mi.; Wolf Creek, W. Br., brook trout, Grove City, 3 mi.; Cool Spring Creek, black bass, Mercer, 4 mi.; French Creek, black bass, Carlton, 2 mi.; Neshannock Creek, black bass, Mercer, 7 mi.; Pymatuning Creek, black bass, Clarksville, 7 mi.; Sandy Creek, black bass, Stoneboro, 17 mi.; Sandy Lake, black bass, Stoneboro, 149 Acres; Shenango River, black bass, Clarksville, 26 mi.; Little Shenango River, black bass, Greenville, 15 mi.; Wolf Creek, black bass, Grove City, 2 mi.





Outdoor Kids

By Hal H. Harrison

SLUGS are soft-bodied, slimy creatures with little horns.

The first one Jane ever saw was attached to the underside of a garbage can lid. Jane took the slug, garbage can lid and all, into the house to ask her parents what she had found.

A slug might be called a snail without a shell. When it moves it looks like a snail. And it travels at a "snail's pace," leaving behind it a track of sticky fluid.

Both snails and slugs belong to a large group of animals known as "mollusks." These are all soft-bodied, legless creatures. To this same group belong the oysters, clams and scallops. Mollusks pull their shells after them when they travel.

Mollusks are almost without any shape, but they all have on thing in common: a flap or fold of outer skin called a "mantle." The mantle covers the animals breathing organs: gills in some, lungs in others. The mantle also produces the shell in those that have shells.

Snails and slugs are different from some mollusks because they have a

distinct head and a soft, flat body called a "foot." Oysters and clams have two-piece shells, but snails have only one shell.

The horns on snails and slugs are called "tentacles." There are usually four of them. At the tips of the large horns are the eyes; the small horns are feelers. Pond snails have only one pair of horns; their eyes are located at the base of each horn.

Snails and slugs have their own method of feeding. They do not have jaws. Instead, they have a long, ribbon-like part, made up of rows of sharp, hard teeth. When this part is moved back and forth it serves as a file to cut food.

Most snails and slugs lay eggs, but a few land snails bear their young alive. Pond snails in aquariums often lay their eggs in jelly-like masses along the sides of the glass.

Land snails feed on fresh and decayed plants. Sometimes they do damage in greenhouses and gardens. Slugs eat both plants and animals.

Billy and Jane have found that fresh-water snails make easy-to-keep pets. They keep theirs in a quart jar partly filled with "green water" from a stagnant pond. Some mud is put in the bottom, and a few small water plants are added. The water contains food for the snails.

. . . *The End*

ANALYSIS OF 1950 HUNTING ACCIDENTS

WASHINGTON, D. C.,—832 of the nation's hunting accidents in 1950 have been carefully analyzed in a report published by the National Rifle Association of America in its magazine, The American Rifleman, 173 accidental shootings covered in this report were fatal to the victims, 659 resulted only in injuries to the persons involved. The type of weapon responsible in the 832 hunting casualties was unknown in 20 cases, but shotguns figured in almost twice as many gun accidents as did all other types of weapons—516. Rifles, principally .22's and .30 and .32 caliber weapons, figured in 268 accidents; handguns were used in seven, and two injuries resulted from hunting with the bow and arrow.

Out of this total of 1950 hunting accidents reported by the NRA, 229 accidental shootings were self-inflicted while 584 of the victims were killed or injured by another hunter.

According to the NRA analysis, 358 of the persons injured by other hunters were killed or wounded accidentally by an excited shooter who was firing at game, or thought he was. 86 persons were deliberately shot in mistake for game, while 93 just happened to get in the way..

A total of 378 casualties resulted from such carelessness as the improper handling of a loaded gun, falling while carrying a loaded weapon or just simple "horseplay."

Known as the Uniform Hunter Casualty Report, the figures prepared by the NRA have been painstakingly gathered by the Conservation Departments of thirty-three states and several Canadian provinces.

The report provides ample proof that no particular class of hunter is immune. Of the accident victims on which the report is based, 208 were upland bird hunters, 31 were duck hunters, 168 were hunting deer and 106 were walking the open fields after rabbit or quail. In 599 accidents in which it was possible to measure the distance of the victim from the gun which injured him, it was found that over half occurred at a range of 10 yards or less. Only 41 casualties were reported at a range of over 100 yards.



PGC by Parlaman

The shooting of cubs is the greatest single threat to the future of our bear population. These four illegal kills were discovered in one day by a Game Protector in a northeastern county.

IDENTIFICATION OF BEAR CUBS

In many instances the killing of illegal bear cubs can be traced to lack of knowledge concerning the differentiation between legal bears more than one year old an cubs. Due to the fact that many legal bears are no bigger than the largest specimens of cubs, size alone is an uncertain means of identification. To be on the safe side the hunter must refrain from attempting to take any bear that is sufficiently small to warrant suspicion. This precaution should work no hardship upon the sportsman, as a bear so small that it could be confused with a cub would hardly be considered a worthwhile trophy, even though it proved to be a legal animal.

M. E. Sherman, Supervisor of the Northcentral Division, offers some additional hints that will not only aid in identification, but will also demonstrate the necessity of exercising the utmost caution during the forthcoming bear season:

"No definite weight limit identifies a cub bear, as old runt bears sometimes weight about the same as cub bears; furthermore cub bears have been examined that weigh as little as 30 pounds or less and up to as much as 90 pounds. We must rely upon our experience to determine cub bears in the same manner as we would differentiate between a boy and a dwarf older man. Anyone having made several observations ought to be able to determine the difference between a cub bear and an adult bear. The hair or fur of the little animal is much softer and silky in texture than an adult bear. The facial appearance is more stubby and has that baby face expression that the adult bear does not have.

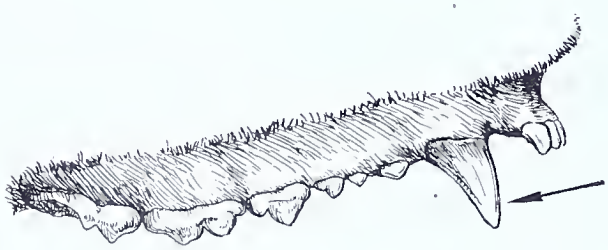
"Usually the large canine teeth or 'tusks' of an adult bear are approximately an inch or more in length. The base of these canine

teeth are oftentimes stained as a tobacco-chewing man's teeth. The teeth are solidly anchored unless broken out or otherwise mutilated. Cub bears' canine teeth, or tusks, are seldom more than one-fourth to one-half inch in length and are usually free of stain of any kind. Oftentimes you will find that these tusks are pushing the baby teeth out of the jaw. The baby teeth may occasionally be found attached loose to the gum. Sometimes the permanent tusks may be just coming through the jaw, or may be fully through the jaw, depending on the health of the animal or the food available during the summer months.

"No definite paw size can be used as a measuring stick because some cubs may be club footed; however, to the experienced person there is as much difference between a cub bear's paws and an adult bear's paws as there is between a man's and a boy's hand.

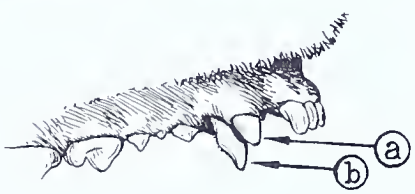
"Some years ago I examined a runt bear that weighed approximately 75 pounds. This animal was long and slender in body and had a rather long head similar to a wild boar's. Its canine teeth, upper and lower, were more than an inch in length, heavy at the base, and were quite heavily stained. It was a rather vicious appearing animal even though it weighed less than a good healthy cub. I estimated its age approximately four years. There is considerable difference in the overall appearance of cubs and the overall appearance of a runt bear. Please take advantage of every opportunity to acquaint yourself with that difference.

"The rather coarse and rough appearance of the hair of adult runt bears is oftentimes helpful. If anyone queries you concerning the difference between adult bears and cub bears, the above description will be very helpful to you You may also add that Superior and Supreme Court decisions place the responsibility upon the hunter where there is doubt about a game animal or game bird being of a species that may or may not be lawfully killed. In other words, if a hunter is in doubt of its legality he should not shoot an animal or bird. The same principle applies in these decisions as with the law which requires that hunters must be certain that game is plainly visible and identified as a legal animal or bird."



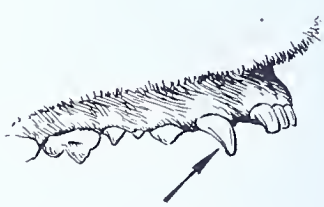
LEGAL ADULT BEAR

Permanent canine teeth, or "tusks", are fully formed and at least an inch in length. As a rule they are stained around the base.



ILLEGAL CUB BEAR

The permanent canine tooth (a), only partially exposed, is forcing the "milk" canine tooth (b) out of the gum.



ILLEGAL BEAR CUB

No sign of a permanent canine tooth. The small "milk" canine tooth is still in place.

Meal Tickets

By John E. Harney

THIS is the story of one phase of Man's effort to provide meal tickets for his cloven-hoofed game charges, which, unlike Man are physically incapable of providing food for themselves. It is the story of a study made to determine the effects of forest cutting practices on the production of deer food.

The Pennsylvania Cooperative Wildlife Research Unit and the Forestry Department of The Pennsylvania State College are currently making a long term survey of this relationship between forestry practices and the amount of deer food produced. As a graduate student at the College during 1947-48, the author worked on a part of this study. This particular phase of the research concerned the effect of cutting operations in the chestnut oak, or rock oak, *(Quercus Montana)* forest type in Central Pennsylvania.

The study was set up to provide information on the amount of browse made available to deer following two different types of cutting. A comparison was made between the productivity of browse on an area subjected to a thinning and an area clearcut to market the maximum quantity of forest products. In order to evaluate the browse production on treated areas, and appraisal of undisturbed forest tracts adjoining each of these areas was made.

The practical problem of food control is a matter of providing the kind, amount, and distribution of food which will suffice for the whitetailed deer during critical winter and early spring seasons.

During the course of the year deer utilize to some extent nearly all of the woody plant species within their local habitat in addition to various herbaceous plants. There is a great variation in seasonal utilization of plant species. This is attributed to factors of seasonal availability and palatability of plants and the divergent physiological needs of both sexes.

The physiological needs of the sexes are thought to motivate a certain selectivity in feeding. A buck growing a set of antlers doubtless requires food rich in bone-forming nutrients, and the accelerated nervous activity attendant with the mating season may result in the utilization of other browse plants. The pregnant doe or nursing doe may find certain foods more suitable to their specialized needs during different seasons of the year.

The system of forest cutting which produces the greatest amount of available browse for the longest sustained period evolves as the practical method of maintaining a maximum population of deer. Second-growth hardwood stands present the greatest opportunity for manipulation to produce large quantities of deer browse. The average stand 50 years old has long since formed a closed canopy under which only meager reproduction can become established. Such natural agencies as fire, windthrow, snow breakage, and insect and disease attacks create openings in the overstory which greatly facilitate establishment of new seedlings in the forest. However, there is no appreciable correlation between advancing age of the forest and the proportion of openings thus naturally formed. It remains for man to produce these clearings and effectuate a sustained browse production.

Weedings and improvement cuttings in young hardwood stands pro-

long for a period of 10 to 25 years the usability of the tracts by deer. The density of a stand can be changed by thinnings which materially increase fruit crops and undergrowth development, as well as timber size and quality. In thinned stands, trees attain crop-producing age earlier and produce larger seed crops; the openings created by thinnings are more productive of herbs, shrubs, and advanced hardwood growth which provide wildlife food; and the residual timber increases its growth rate.

Clearcutting for the purpose of utilizing the maximum of forest products, effects removal of the overstory, which had inhibited the establishment and rapid growth of young plants and permits establishment of relatively dense young growth. The entire area becomes potentially productive, and the soil, freed of the exhausting demands of the timber stand, rapidly gives birth to a multitude of new plants.

The results of a three year study in Pennsylvania indicate that during the winter months slightly more than two pounds of food material is required each twenty-four hours to maintain in only fair condition 100 pounds of living deer. Since the average live weight of Pennsylvania deer is very close to 115 pounds, just over two pounds of food per day would be required to carry a deer through the critical winter months.

The Study Area

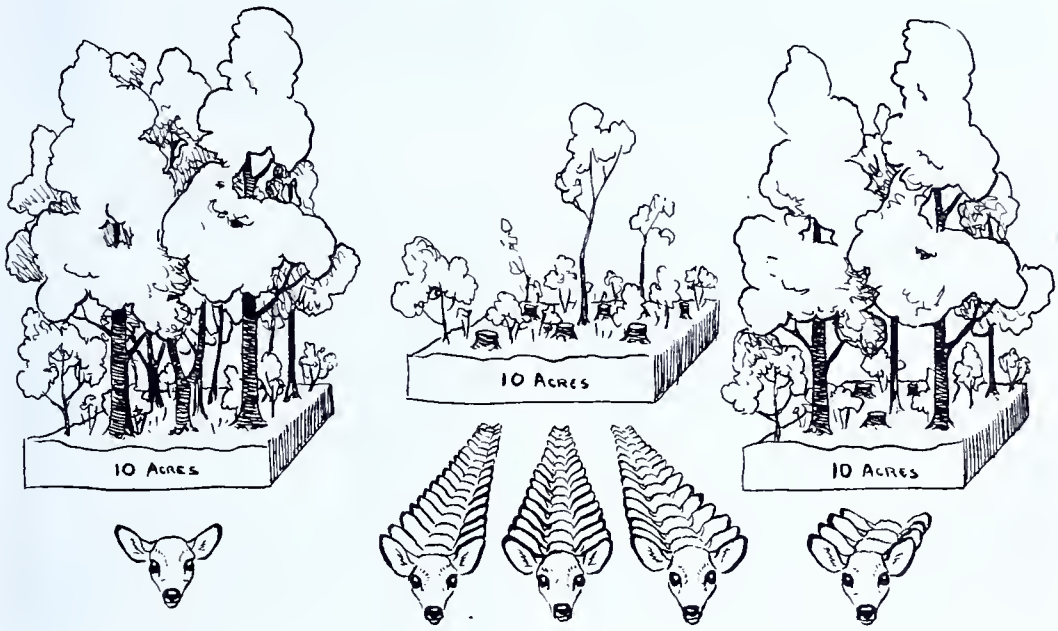
The areas selected for study may be considered fairly representative of the chestnut oak type in Central Pennsylvania. They are situated in Huntingdon County in a region consisting of a series of narrow, parallel intermountain valleys separated by steep-sided mountain ranges that rise to a general elevation of 2,000 to 2,400 feet above sea level. Two tracts, about a mile apart, were chosen for the study; one had been clearcut and the other had been selectively thinned to improve the residual stock. A tally of the trees on each area indicated the species composition to be relatively similar. The untreated forest adjacent to each treated area was included in the study to serve as control plots.

Nearly all of the land in the vicinity is occupied by shallow soils of shale and sandstone origin. Because of the humid climate, the soils of the uplands have been leached of lime so that they are medium to strongly acid. In general, the moisture-holding capacity of the shale-hill soils is low because of their shallow formation and because the steep slopes promote rapid runoff and prevent absorption of much water.

The original logging practices on the less fertile hills followed a "high-grading" system, wherein only the best species were cut, and each successive cutting further degraded the value of the residual stand. With the discovery of iron ore deposits about 1780, trees over extensive areas were cut for charcoal for use in the smelting of the ore. The second growth timber which had developed following the initial logging was clear-cut. These successive heavy cuttings, and recurrent forest fires which swept vast areas, were responsible for the present day stocking of inferior species and defective trees.

Procedure

In order to attain the objectives of the study, it was necessary to formulate a basis on which vegetation was to be tallied. Previous studies indicated that deer feed on new growth only (plant material produced during the current growing season) unless forced by extreme overbrowsing to feed upon less-succulent, older growth. It was arbitrarily decided that in the browse tally all woody vegetation occurring within the following designated limits would be tallied: current vegetative growth of one inch or more in length and growing at a point three inches or more above ground level up to five



Untreated Area - 1 deer Clearcut Area - 50 deer Thinned Area - 4 deer

CARRYING CAPACITY OF 10 ACRES OF CHESTNUT OAK, DECEMBER THROUGH MARCH

and one-half feet high—the height beyond which deer seldom reach when feeding.

A system of sampling was employed in which a number of sample plots (each one-thousandth of an acre in size) were laid out at random to cover 10 percent of the ground area of each of the four tracts. On these sample plots the number of twigs of current growth were counted and tabulated by species, and an average number of twigs per acre was computed by species.

In order to convert twigs-per-acre to pounds of browse per acre, a conversion factor was needed. An examination of twig-count data sheets indicated that many species occurred infrequently and thus it was decided that only those species which occurred on more than 5% of the sample plots would be used in computation of weight data. For each of the species not eliminated by this somewhat mechanical method, slightly over 300 twigs were clipped from specimens scattered over the area, and the samples were weighed.

Twig cutting and weighing was deferred until the autumnal leaf fall was well advanced. This was done in order to secure the twigs for weighing at a time when the growing season was near an end, so that material collected would more nearly approximate its winter condition, and to facilitate striping the leaves from partially defoliated vegetation. As it was, many branches still bore leaves when the twigs were clipped in late November. To insure collection of reliable weight data, no cutting was done within 36 hours after a rainfall.

Discussion

The browse sampling in the clearcut area and its control, and on the thinner area and its control revealed some interesting facts. The clearcut

forest tract (Area #1) produced 1197 pounds of browse per acre; its control only 22 pounds. The thinned area (Area #2) in contrast, produced 83 pounds and its control 32 pounds. The weight of browse produced per acre on the clearcut tract indicates the greater productivity of an area which, after years of sustaining advanced tree growth, is freed of the highly suppressive overstory. Those plants which sprout readily and vigorously, and the seedling reproduction that becomes established in a soil disturbed by logging operations, strive for a position of dominance in the developing plant community.

The objective of the partial cut in the thinned tract was to improve the condition of the remaining stand, but this release from competition was not so effective in increasing browse productivity. The weight of browse produced per acre on the Area 1 control tract was about one-third less than that produced on Area 2 control tract. This difference may be due to dissimilarity in the stand composition of the dominant and associate species. Both control areas fell far below even the thinned area in browse production and indicated the value of the thinning operation.

The drawing shows the number of deer days of browse produced per ten acres and the number of deer which could be sustained per ten acres during the ciritical period (December through March) on each study tract. This is computed on the basis of an average daily consumption of two pounds of browse per deer.

Summary

The figures show that the clearcut tract produced about 14 times the weight of browse produced on the thinned tract and 45 times the average weight of browse produced on the control tracts. Carrying capacity is dependent upon the amount of browse available to deer during the critical months, December through March. The comparative carrying capacities of the study tracts indicated that ten acres clearcut would produce sufficient browse to support fifty deer through the critical winter months of one year, ten acres of thinned woodland would support between three and four deer, but uncut areas would support only one deer for the same period.

It must be pointed out that, while the figures obtained for weights of available browse represent the weight of current growth produced, they do not necessarily represent the weight that will be consumed even under severe overbrowsing. Deer seldom nip the entire length of new growth while feeding. Thus weights of browse and carrying capacities are based upon the maximum potential of browse production.

Pennsylvania's second growth forests, typical of nearly all of the forest land in the state, afford a meager supply of meal tickets for deer. However, meal tickets can be provided as a by-product of Man's timber-cutting operations. Clearcutting and thinning increase browse production to a marked degree, thus permitting a greater number of deer to feed on the treated areas by providing additional food for the deer present.

Our deer herd can be expected to decrease steadily, and will continue to do so as long as existing browse supplies diminish with the advancing age of the forest. This condition will remain unchanged until the time when large scale timber cutting operations become commercially profitable on private or state forest lands. Meanwhile, the Pennsylvania Game Commission is conducting a program of experimental cutting and thinning on State Game Lands in an effort to determine methods of treatment most beneficial to both timber and wildlife.

. . . *The End*



Forgotten Breakfast

HUNTINGDON — One morning when I checked my predator traps, I discovered that one had been sprung. Upon closer examination I saw two toes in the trap—they were grey fox toes. The fox must have done considerable jumping around before he tore his toes off and escaped. Then I noticed that in his hurry to leave that place the fox had left a mouse and a small pheasant chick lay there. No doubt he had caught these two things for his breakfast and was carrying them with him when he decided to take a sniff into the dirt hole set at my trap. District Game Protector Dean M. Lesnett, Sr., Huntingdon.

Trained Goshawk

DRESHER—I was called to the farm of Edward Methias, Dresher, Pa., to check an unusual bird that he had trapped. To my surprise I found a full-grown Goshawk with all the accessories to prove the bird was being used for falconry. Each leg had a bell attached to it and the legs also had the leather thongs attached. I crooked my arm and the bird immediately flew to this perch. Mr. Methias told me that the hawk circled and then flew into his barnyard where it killed a turkey and started to eat it. This has been very interesting to me since I had several reports that falcons were being used in my District. District Game Protector William E. Shaver, North Wales.



No Eviction Notice

READING—George Reeser of R. D. 2, Reading, told me about a litter of beagle puppies that he is raising. Mr. Reeser noticed that the mother was removing the puppies from the kennel and he was rather curious about the procedure. Upon investigation he found that a groundhog was in the kennel. When trying to remove the animal he was severely bitten. District Game Protector E. J. Turner, Centerport.

Duck-killers Trapped

MONTGOMERY—On a small pond near Montgomery (Thomas Dam), using two turtle traps, Mr. Latimer and I trapped 22 snapping turtles during two weeks in September. They ranged in size from 10 pounds to 32 pounds. This pond contains about three acres and is a fairly good breeding area for teal and wood ducks. It is felt that surely these snappers account for a good number of young ducklings during the summer months. District Game Protector R. H. Morningstar, Montgomery.

Mystery Grouse

STOWE—On Sunday, September 30, I received a call from a William Slaby of Stowe, West Pottsgrove Township. He told me he was working in his shop, which is in his back yard, when he heard a loud thump on the door, and investigating the noise he found a grouse lying at the foot of the door. He picked up the bird and put it in a box. When I got there the bird was very much alive, and when placed on the ground it took off within a minute, apparently not hurt at all. It is very unusual to find a grouse in Montgomery County. Deputy Game Protector Richard E. Blair, Pottstown.

Shock Treatment

YORK—This past summer Deputy Schroll told me about a deer that was killed near his home. A local farmer reported a dead deer in his pasture and an investigation proved that there were no marks on the carcass. The farmer found the buck with his antlers tangled in an electric fence and having no marks on the body we assumed that the buck might have been electrocuted. District Game Protector Earl E. Geesaman, York.



Playful Eagles

PYMATUNING—Young eagles are confined to the nest for a long period (usually from hatching time in April until late July). Once they leave the



nest and get their wing muscles strengthened for flying they become very playful and spend much time frolicking in the air.

Every fall it is common to see these great birds soaring and gliding higher and higher up into space. Occasionally, after gaining great altitude, the birds will suddenly come together, flare and each grab hold of the other's feet. Then the wings are held tight to the body and the birds begin a crazy-somersault descent that makes it appear that both birds have been killed and are plummeting to earth with no control whatsoever. However, just before reaching the ground the birds let go of each other and begin to fly again. The soaring and gliding begins all over and the whole playful action is repeated.

The first time I witnessed this act put on by eagles, I stood there in amazement. I wondered what magic had killed both of these birds so instantly and at such a great height. I still could not believe the eagles were playing until I watched them do it over again. Since that time I have seen them do it many times, always during beautiful fallweather when the sky is blue and cloudless and the air has that certain 'tinge' which indicates that rough, cold weather is just around the corner. District Game Protector, Raymond M. Sickles, Linesville.

Good Neighbors

BUSHKILL—William Schoonover of Bushkill reported the following incident: A mother grey fox and her litter of young in an abandoned drain pipe; not fifty feet away a mother rabbit had a litter of rabbits by an old barrel. The people near by kept a close watch on both families as they all expected the grey fox to make a meal of the rabbits. After about three weeks of watching everything was going along fine when one morning the rabbits were missing. A large black snake was found near the rabbit nest with five telltale lumps, showing where it had eaten the rabbits. The boy who found the snake ran for home to get his father to come and kill it. By the time they got back the grey fox was at the snake and had killed it. District Game Protector John H. Doebling, Stroudsburg.

Rabies Again

HILLSGROVE—Rabies are again taking its toll but in a different area. Recently a resident of Hillsgrove observed a raccoon acting very strangely and captured the animal. I sent the head to Harrisburg for examination and a report of positive rabies was received. This is the climax of many reports from that area of opossums, skunks, raccoons and foxes acting in strange ways. It appears as though there is a real epidemic there which is led by the above four wild animals and is slowly spreading further into the county according to the reports I am receiving. District Game Protector Robert K. Benscoter, Laporte.

What a Mouthful

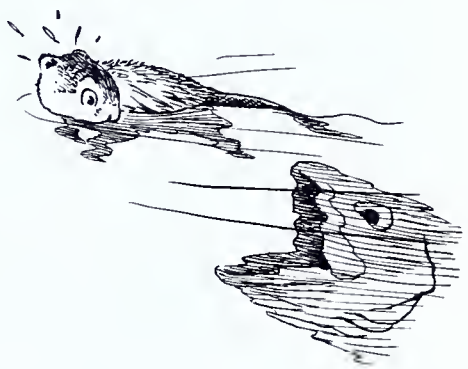
WARREN—In skinning two two of the grey foxes trapped during this month, I discovered that the lips and necks of these foxes contained numerous porcupine quills. Porcupine is evidently included on the menu of the grey fox. District Game Protector David R. Titus, Warren.

Fox Call

TIONESTA—While on my trap line the other day, there was a grey fox in one of the traps, and when I walked up to it, he started barking. When I was about to put him out of commission, two other foxes came running in and they also did a lot of barking. One came within about 40 feet of me. What we need is a call of some kind so that we can go out and hunt them like hunting crows. District Game Protector Carl B. Benson, Tionesta.

Greedy Bass

MONTROSE—Sometime ago a Montrose business man, while fishing on Lake Montrose, caught a nice bass that after being placed in the boat



regurgitated a muskrat that was about ten inches long. District Game Protector James W. Clouser, Montrose.

Rattler Bags Squirrels

LOCK HAVEN—On July 25, 1951 one of the Food and Cover workers in my District killed a black rattler while moving equipment on the Hazzard Road, Game Lands No. 89. Upon examination it was found that the "Buzztail" had two partly digested grey squirrels in him. District Game Protector Miles L. Reeder, Lock Haven.

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
HARRISBURG

Deer Hunter:

Have you often wondered how long it took your buck to reach that trophy size; whether that little one was an undernourished runt, or just a late-born fawn; or what the age was of that tough steak you just had? Here's your chance to find out!

Have you ever speculated on why, although you see many deer in a day in the woods, you see so few legal bucks at which to shoot? No doubt you have often wondered how an antlerless season affects your chances of success for the next year; or of what per cent of the bucks, both fawn and adult, are harvested during a season of this type. Perhaps you would like to know what per cent of the does are being bred, and what the potential fawn crop will be for next year. One thing certain, you do want to find out how your deer hunting can be improved so that you can take more deer and better specimens over a period of time.

Well, these and many other questions involved in good herd management may be answered if you will help. The Game Commission has inaugurated a study of the White-tailed Deer in Pennsylvania, aimed at improving your hunting. But the true picture of the conditions as they exist today must be known before this goal can be achieved. This is where you, and the many thousands of other hunters who will be successful this fall, can aid your own sport.

Remove one-half of the lower jaw from your deer, scrape off the excess flesh, and send the jaw to the address below. It is important that you send yours in, even if it isn't a prize trophy, to insure an adequate representation of the large and small, young and old, male and female. A true cross-section of the number of deer harvested must be attained. It is also imperative that the information sheet be filled out as completely and accurately as possible. Added remarks, concerning pregnant does shot in season, does still producing milk, those showing evidence of disease or deformities, bucks with shed antlers, spotted fawns, and similar miscellaneous information would also be of considerable value.

If you have friends going deer hunting, why not pass this request on to them, too? It is not necessary for them to have an original data sheet; let them copy yours. The more jaws we get, the more reliable will be the information. A postcard will be returned promptly giving the age of your deer.

Sincerely yours,

Stanley E. Forbes

Stanley E. Forbes
Sr. Research Technician

SEF:MS

Fill out this form as completely and accurately as possible, and forward with one side of the lower jaw of the deer to: Stanley E. Forbes, 229 Monterey Avenue, Ridgway, Pennsylvania.

Deer Data Sheet

Date of kill_____. County_____.

Township_____

Sex_____
male female

No. of points_____
left right TOTAL

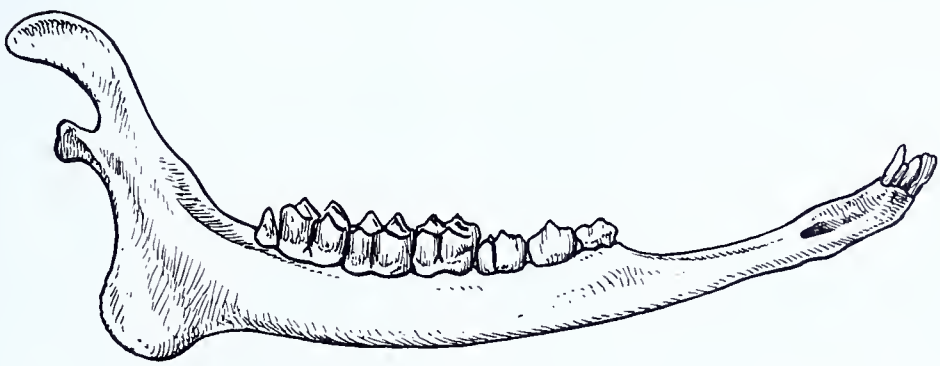
Weight hog-dressed ____lbs. or _____lbs.
actual estimated

Remarks (pregnant, lactating, spotted fawn, shed antlers, disease, etc.)_____

Name_____

Address_____

_____





Cleanup of Brandywine Wins *Outdoor Life* Award

The Brandywine Valley Association, a non-profit organization devoted to the rehabilitation of the historic Brandywine Valley's natural resources, has been accorded national acclaim for distinguished service in the cause of conservation.

Officials of the association were informed recently that the organization had won the coveted *Outdoor Life* Conservation Award for its fight against the ravages of pollution, soil erosion, drought and flood.

The award, originated by the national outdoor magazine, is made for outstanding achievement in the field of conservation. "What has been done in the beautiful Brandywine Valley," says the magazine, "can be done elsewhere, and we are happy to hold up this achievement as an inspiration to people all over the country."

Clayton M. Hoff, executive vice-president of the Brandywine Valley Association, says *Outdoor Life* has advised him that the association is the first non-sportsmen's organization in the country to receive the honor.

The Brandywine Valley Association was organized in the spring of 1945 as the outcome of a meeting of thirty-five representative residents of the valley. Its avowed purpose was to encourage and help the 200,000 residents of the fertile valley to clean up a sick river. Today the association has 1200 members and operates on a $36,000 annual budget.

"The Battle for the Brandywine," says the magazine's Award Story, "has proved inspirationally that when a people put their brains and their brawn and their hearts into the job of rehabilitating their valley, they can transform it into a more healthful, more prosperous and more pleasant place for everyone to work or play—whether industrialist, farmer or bass fisherman."

The story goes on to tell what has been done by individuals and countless groups under the leadership of the association to abate water pollution and soil erosion, to improve existing woodlands and reforest waste areas, to conserve and increase wildlife and to protect the valley's natural beauty.

It points out that the water of the upper Brandywine is now reasonably free of sewage and industrial pollution, and that the river is winning back its old popularity as a bass stream. Modern soil-conservation methods have been established on more than 400 valley farms and applications are in for 60 additional farm plans.

"The Battle has already produced remarkable results," the story says, "and will produce greater ones in the future. One can be accurately measured. In 1947 every three-inch rainfall washed on the average of 2000 tons of topsoil—the valley's most valuable asset—down the Brandywine. Today a three-inch rainfall takes only 1000 tons. Within five years, it is estimated, soil loss will be negligible.

The Conservation Award consists of a bronze and mahogany plaque bearing the Conservation Pledge and a cash contribution to help further the work of the association. The formal presentation was made at the annual meeting of the Brandywine Valley Association at West Chester, Penna., October 24. Arthur Grahame, field editor and author of the story, represented *Outdoor Life*.



One gets you two that in spite of the forthcoming unpleasantries our buck private friend will sneak another look at his GAME NEWS as soon as the coast is clear. If you have a GI on your Christmas list why not give him a gift subscription to this informative and entertaining sportsman's magazine—he'll gladly risk perpetual K.P. for that!

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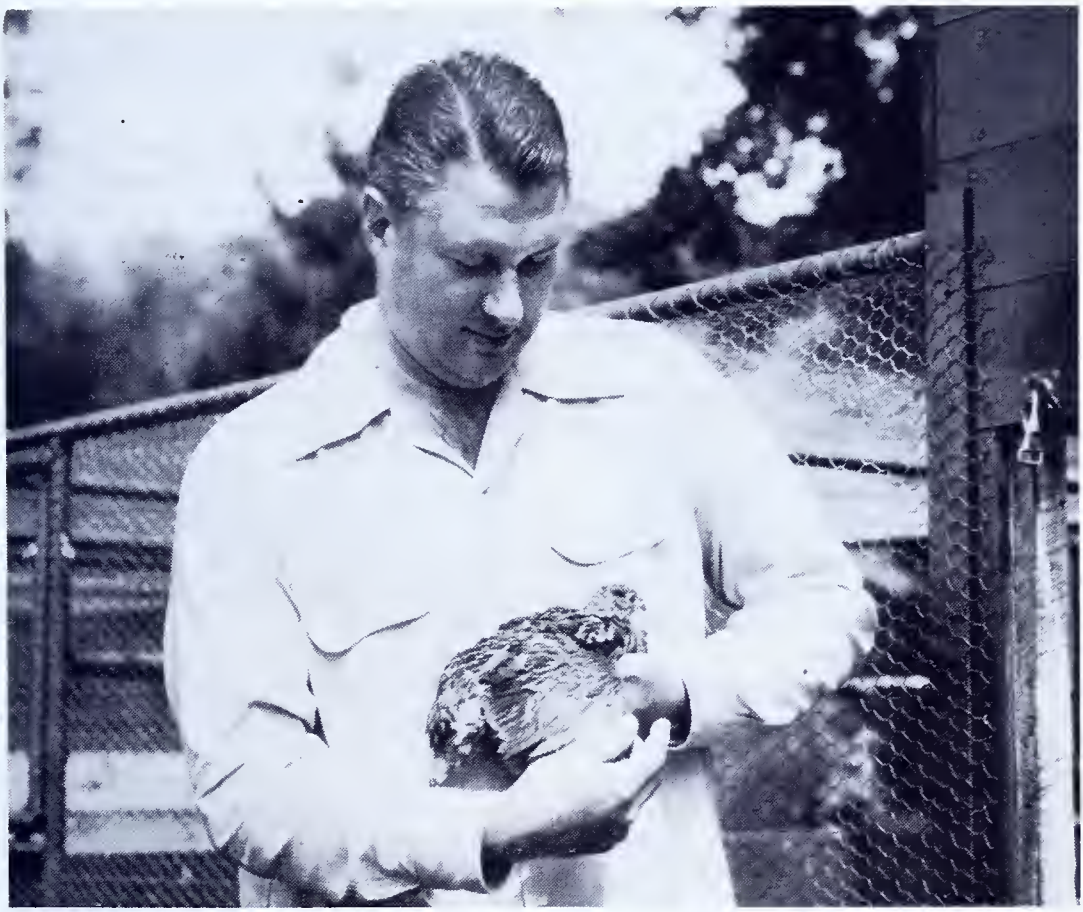


Photo by Hal Harrison

Bob Habgood examines the moulting wings of "Old Charlie," the oldest ruffed grouse at the private propagation project near Bradford.

Grouse-Raising Experiment Promising

While most state conservation agencies have given up the artificial propagation of ruffed grouse as unsatisfactory and economically unsound, Pennsylvania does have one privately sponsored and privately financed grouse propagating program which is now entering its third year of research. It is the Orchard Valley Farms project at Bradford, conducted by Bob Habgood and Tom Mallory, two well-known McKean County sportsmen.

Even though the Pennsylvania Game Commission has no official connection with the program, it has granted permission for the experiment and has offered the results of its own past experiences as guides.

The owners of Orchard Valley Farms have 13 years experience in game bird propagation. Since 1937, ringnecks, quail, chukker partridge, wild turkeys, mallard ducks, wild geese and exotic birds have been raised successfully.

Not until the spring of 1948, when Habgood and Mallory were convinced that their experience warranted it, did they consider the propagation of grouse, an admittedly difficult species to manage artifically. The project was laid before the Game Commission, and in consideration of the seriousness and sincere intent of the owners, permission was granted to carry on the program.

The first year's work was not encouraging. Eleven chicks were hatched, but only one survived. This

bird, a male, is now one of the breeders at the farm.

In 1949, 14 adult birds were imported from Canada, and 13 out of 26 chicks were raised successfully. These are about half progeny from the Canadian breeders and half from Pennsylvania birds.

Last year, with excellent results from the use of modern anti-biotics, over 80 grouse were raised to maturity.

These juveniles along with the old birds now form the foundation stock for what Habgood and Mallory are hoping will be a successful attempt to raise a good sporting strain of grouse.

To assist in the study, Bob MacDonald has been brought to Bradford from game farms of the New York Conservation Department. MacDonald has a wealth of experience working on grouse projects in New York.

"It is not our aim to raise grouse in great numbers," Habgood declared. "We would like to raise 100 to 200 a year here on our farm. These would be used to re-populate grouse coverts during periods of scarcity and also to increase grouse populations on grouse trial areas prior to major events.

"Above all," he continued, "we would like to discover methods by which conservation agencies may propagate grouse successfully on a larger scale. If we learn this, our methods will be open to any state which wants them."

FARMER-HUNTER RELATIONSHIP

(Excerpts from a paper read by Seth L. Myers, President of the Pennsylvania Outdoor Writer Association, for discussion at OWAA Convention, Escanaba, Michigan, July 2, 1951.)

ASSUMING that you are confronted with the same downward trend of open hunting grounds as we, I shall review some of our experiences which you may compare with yours. I suspect the trend to restricted hunting is universal. Private lands posted against the general public, largely because of vandalism by a minority of the hunters.

A farmer telephoned one day and asked me to go out to his place as witness to a breach of hospitality by two hunters to whom he had granted permission to hunt on his farm. With nearly two hundred acres on which to enjoy their sport, they had chosen to shoot at a rabbit near his barn. The rabbit ran into the end of a string of tile in a drainage ditch, not yet covered with dirt. Upon seeing them tearing up the tiles, he ran to accost them. They had wrecked his project of many hours of labor and when he demanded they restore it to the condition in which they found it, they refused. He ordered them off his farm and later had them arrested and prosecuted. In Pennsylvania, there is a $25 fine for this sort of vandalism.

You will say "Good, they deserved the punishment—and more too!" Of course they did—but what else? That happened in 1938 and to this day that farm, and several others nearby, are posted solid.

Through the years, vandalism has increased alarmingly and correspondingly more and more farmers have posted their lands. Regrettably posting serves only to restrict the law-abiding hunters from enjoying such lands unless they are granted permission to hunt on the posted areas. In many cases, when a farmer becomes angry enough to post his land, he will not permit hunters, good or bad, on the property if he can prevent them. But the persons responsible for the posting care little or nothing for unwelcome signs. They sneak in and kill game and sneak away before the owner can intercept them.

This fact was recognized in a big farmer-sportsman meeting held in the Court House back home, some years ago. The auditorium was packed with farmers, hunters and reporters. Many reports were made of how hunters paid no attention to posters; even shot them down. During the meeting, which lasted long into the night, I recorded many pages of data which is now being used in an effort to throw the strength of the clean hunters against the minority group of vandals, with the hope of once again enjoying widespread friendship with those who own the hunting grounds. The following statements were made by farmers of unquestionable character, and are a mere sample of many we heard.

Mr. Stallsmith: "I told four hunters they could hunt anywhere on my farm if they didn't shoot too close to the buildings or livestock but they got to shooting among my cattle and I ran them off. A day or so later I found one of my best milkers had been hit in the udder and I was forced to butcher her. I had to sell the meat for dog food at 10c a pound which brought me $40 and it cost me $140 to replace her in the herd. Now, nobody can hunt on my farm; never again!"

Note: Since Mr. Stallsmith made that statement, we have had some good visits with him, and he now has changed his mind. If hunters ask permission to hunt, and act like men, they are welcome.

Mr. Jailette: "Out in our country, we've always permitted hunting and fishing until last year. When the County Coonhunters Club bought a good sized piece of land, and darned if they didn't post it right off the bat! It was some of our best hunting and the kids' trapping territory. Well, let me tell you it didn't take us farmers long to post."

Mr. Faker: "Some two or three years ago, I went to a big sportsman meeting over in Clintonville, and heard one of your big men from Harrisburg tell the crowd if they wanted to have more rabbits and pheasants to kill, they would have to first get out and kill off a lot of the cats. Well what do you think I did when sometime later on, I saw two of my best barn cats shot along the road? I posted every inch of my farm and believe me, it's going to stay posted against everybody."

Let us look at another angle of the problem. The farmers have something the hunters want. They own the land on which the game lives and supply the food and shelter at all times. Even though it has been ruled in court from time to time that the game belongs to the State, it is only natural for the farmers to feel, because of their close custodianship, that they just about own the game on their lands. Whether the hunters agree on this matters little; I still believe they should make the overtures of good relationship toward the farmers in good faith.

For many years I've heard of plans for doing something worthwhile for the farmers, such as building ponds and dams for them free of charge. It has been talked and talked that the hunters owe the farmers a lot, and that they are really going to do something about it. But what, may I ask, has been done for the farmers of any real value? Unfilled promises are bitter pills to all of us and the farmer is no different than we are. He is human enough to appreciate being treated right, and deeply disappointed over broken promises. When you show him the respect due him—when you recognize him as the judge of whether you will hunt on his property, he loves it. You do not need to humble yourself in seeking hunting privileges. All that is necessary to meet the farmer on even ground is to conduct yourself as a gentleman and a sportsman. I think some education is needed on both sides of this relationship. Much time and money has

been spent educating the hunters, and perhaps farmers would be a little more tolerant if they realize how they benefit from this hunting sport. Have they been told how the money spent on hunting becomes a cycle, with a good share going to those in many kinds of business, including that of farming?

What about taxes of all the people that are used in many ways by the Government to aid the farmers?

Has it been explained how the game supply was just about gone when hunting licenses came into the picture and with millions of dollars contributed by the hunters, the restoration of wild game has been accomplished through no effort on the part of the farmers except the use of their lands? Many questions need answering if the problem is to be solved.

. . . *The End*



By Herbert Kendrick

Gun Dog Photographs

FAR too many beautiful mental pictures of our dogs at work, fade or die with the rapidly passing years, when a few simple photographs would perpetuate thrilling experiences. Around the cracker barrel listening to a group of hunters it is difficult to believe that the smallest accomplishment of a pet dog is ever forgotten, however it is great fun to accompany a good dog story with a lasting photograph of the favorite animal.

Photography has developed into a highly important industry, and all field magazines use the cameraman now much more than the work of an artist.

It is not possible for me to give you a correct scientific composition on the art of photography, however, since the efficient commercial photo man in most any city is able to supply equipment and give ample directions for its use, I feel free to attempt to sell you on the idea of taking and keeping pictures of all phases of your dog's life and work in the field.

The men with whom I hunt would rather leave the gun behind than to forget the camera, while many friends have found the photography of dogs and game so fascinating that the gun is seldom used.

Jim Martin in West Virginia is more proud of his collection of color prints of Ol' Brownia than any game bag he ever possessed. Talk with Tom Frye, or any man on his staff at the Game Commission, and each will point with great pride to field photos, while no word will be spoken of bag limits. Dave Newell possesses the greatest collection of sports pictures I have ever seen, and I am certain you have enjoyed many of them in the nation's leading magazines.

In your private den or reading room start a collection of framed photos and allow your guests to enjoy them with you. If space is at a premium keep a scrap book and do not be shy about showing them to your friends.

Ray Holland many years ago learned the exciting pleasures of the

camera, promptly teaching his two fine sons the art of picture making. The three of them have been fortunate enough to spend a great deal of time on hunting and fishing trips all over North America, and while one man uses the gun, the other two are busy with the cameras. See his book called "Good Shot" and you will fully understand the value of permanent records of thrilling experiences.

Added to the personal pleasure of pictures is the constant demand from industries, advertising agencies, magazines and newspapers who are eager to pay attractive prices for interesting photographs.

In your own backyard the litter of puppies make a marvelous subject which will warm the heart of everyone who sees the results. Use the movie or still camera, lie flat on the grass, and be patient enough to catch them when the picture looks best to you.

The young pointer or setter can be photographed beautifully begging for his food, in the car, lying in the sun, or at any time his expression is pleasing or unusual to you. Photograph him on game at different phases of his life. The enthusiastic statuesque point of a young dog is a subject well worth all the time and effort to record. A point as a picture subject is equalled only by the one taken of a dog retrieving a colorful bird.

Game will not always cooperate with the photographer. Too often the action takes place in thick woods

A beautiful photo of a topnotch dog—Sam's Madison Jake, winner of the National Pheasant Championship in 1949 and highest bird scorer in the 1950 National Quail Championship, owned by R. Otis Carpenter, Harrisburg.

PGC Photo by Cady



where light is not sufficient, however, keep trying and do not be afraid to waste a little film. You may be surprised at results even though conditions are difficult.

Please avoid fake pictures. The thrill of the shot is lost when the dog is working a planted bird, and your friends will appreciate honesty in photography as well as truth in yourself. The seasoned gunning expert can recognize a phony photo a mile away, so do not risk embarrassment by exhibiting trick pictures.

In making wildlife pictures try to place the camera in a position to emphasize the dog's strongest points, while giving careful consideration to sky and background. A white dog will stand out against a dark wooded background, but if an Irish or Gordon setter is the subject lie on the ground and take the picture with light at the back.

One of the best photos of a pointing dog was mad by Ray Holland. Lynn Bogue Hunt was so impressed with the shot he used it as a model for a national magazine cover. The big pointer had pinned up a ringneck while Ray's son walked in front of the pointer to get a head shot. As he walked toward the dog the bird moves closer to the point causing the dog to actually double up. The cameraman moved back, the bird followed and the dog stretched as far as his body would allow, thus making him appear extremely long and low to the ground. The camera caught him as he attempted to take a quite deliberate step forward. It is as intense a point as I have ever seen, and clearly shows the tremendous importance of recording such beauties for the gunning world to enjoy.

Take advantage of every opportunity to see the sporting movies of Grantland Rice, the game departments, and private pictures, watching them carefully enough to pick up pointers which help you in making your own.

Visit your local camera shop and ask the manager to show you the proper equipment for dog and game photographer and start your valuable collection this season.

. . . The End

WHEN DOG MEETS PORKY

When you take a dog into porcupine country remember to take along a pair of pliers. When a dog has been quilled there's no time to waste in relieving him. Hold or tie him firmly and pull the quills (disregarding some bloodshed) before they have time to work deeper into the dog. Remove the quills around the eyes first, and don't fail to examine the inside of the mouth and the tongue. There is a mistaken theory that a quill can be stopped if it is merely cut off; actually, the part that remains in the dog will continue to travel through his system.

It must be emphasized once again that first aid is a *temporary* measure. Nothing works as well as the care a trained veterinarian can give a dog, and as soon as you are out of the woods have him check the dog and possibly recommend further treatment.

BOOKLET ON HANDLING AND COOKING GAME AVAILABLE

How to Dress, Ship and Cook Wild Game is the title of a handy little booklet which will be sent to anyone who mails ten cents, along with a request, to the Advertising Department, Remington Arms Company, Inc., Bridgeport, Conn.



What Do You Need In A Deer Rifle?

By Ed Shearer

NOW that the corn is shocked and hoar frost lies heavy on the landscape, the deer season is drawing near. There will be many thousand new hunters making their first hunt and likewise many thousands of new rifles will be bought.

Judging from what I have observed in the better sporting goods stores over a good section of the country most guns and ammunition will be in fair supply, if no heavy buying or hoarding takes place. Some models of guns have been and still are hard to come by and will continue so indefinitely. But by and large the new hunter should be able to acquire a satisfactory rifle without much trouble.

The one question that is put to me (and I guess most gun editors) that is the hardest to answer is, "what is the best deer rifle"? The answer to that one has been debated from the time that the first Kentucky rifle was turned out. Go into any old-line hunting camp that is well salted with old timers, and you come out with seven different answers. Read a half dozen different magazines and again you get that lost feeling.

During 46 years of deer hunting and owning and shooting over 150 rifles that could be classed as deer rifles I'll still pass the deal on that one. In my gun rack at the present time are four that could be called deer rifles. If pressed for an answer as to which was the best deer rifle I could answer, "All of them or none of them," and still be within the bounds of truth.

It would all depend on the type of country I was going to hunt and how I intended to hunt it. What the confused new-comer fails to realize is that the old-timer tends to specialize in one type of hunting and sticks pretty much to one type of country. Their answers are probably correct as it applies to them.

Long observation indicates the tyro can answer that question much better than the experts if he asks himself three questions.

First—What kind of physical condition am I in or likely to be when I use that rifle? That will depend to a great extent on your environment, amount of exercise, type of job and age. There is a lot of tough going in most deer country, so if you are not used to, or are averse to, a reasonable amount of physical exertion stay within 7 pounds of gun weight, preferably less, no matter what the salesman says. He ain't going to carry it.

Second—How good a shot are you now? This is the time to be honest with yourself. If you are not a fair shot now stay away from the long range guns no matter how purty the advertising pictures are. Just remember that to push 'em out yonder there is a lot of pushum back. No matter what "Hard boiled Sammy" says, it takes a lot of shooting to handle recoil and hit anything at a reasonable distance. Ask yourself how many rounds you are going to shoot at from 18 to 25 cents per pull? Not many eh! Well then pick one of the lighter numbers.

Third—How much are you going to shoot during the year? Even if you are a good shot now it takes from

500 to 1000 rounds a year to stay in the 200 yard class on Chuck's and 300 yards on deer. Why carry a heavy 300 yard gun with 50 yard ability?

Now let us look a little farther into the actual hunting conditions in Pennsylvania and the East in general. In spite of the tall tales 85 per cent of the deer are killed at from 25 to 75 yards. The one exception may be in the farming country where deer may be chased into the fields with resultant long shooting, but from what my farmer friend tells me, the general run doesn't win many marbles. They have no trouble hitting his house, his horse, and his ox, but the deer usually go unscathed.

Boiled down this means that the beginner with a light fast-handling rifle of moderate recoil who learns to hit a tomato can at 40 yards and who acquires a modicum of ability to efface himself from the scenery, will be frying meat right along with the rest of them.

This is not to disparage the real experts who use heavy scope sighted rifles and who get their fun in watching the far hillside. Those birds would still eat meat if they used a .22 rim fire.

Now let us take a look at rifles that are still being factory produced. A lot of good guns and cartridges have been discontinued including the excellent Remington model 141 pump action, so that leaves two types for the hunter to choose from—the lever action and the bolt action. First we will consider the lever actions.

Winchester still makes the Model 1894 carbine chambered for the .25/35, .30/30 and .32 special cartridges. This gun has killed more deer than all other makes and models combined, still a lot of people try to tell us that it is a poor deer rifle. It's a good pointing gun with 20 inch barrel and its 6¼ pounds makes a fast handling gun in the brush. A good 150 yard gun and I'd take it in the 30 caliber. Winchester also puts out the same calibers in the Model 64 with 24 inch barrel and ¾ magazine at more money.

The Model 71 is a new version of the 86 Model with a heavy pistol grip stock, 24 inch barrel and ¾ magazine, holding 4 cartridges. The caliber is .348 with 200 and 250 grain bullets. A good 200 yd. gun with recoil on the kick 'em side, it is the most powerful lever gun made at the present time. It's a little on the heavy side for deer on most counts and not a very good long range gun due to the necessarily poor bullet design.

The Marlin Firearms Company have vastly improved their line in the 336 series, made in both carbine and rifle. It is chambered for the .30/30 and .32 special cartridges. This rifle weighs about 6½ pounds and the workmanship is first class. They recently brought out this model chambered for the .35 Remington cartridge. This model with 2/3 magazine and 20 inch barrel is close to the ideal deer rifle. It points fine, handles fast and packs a wallop, with a 200 grain slug. In the 150 yard class of deer rifles this model ranks with the best

Savage Arms Company has several versions of their famous Model 99. This model is the only hammerless revolving type magazine rifle made in the lever action. This permits the use of modern pointed bullets. This rifle has a well shaped full pistol grip stock with a 24 inch barrel, and weighs 7¼ pounds. It is chambered at the present time for the .250/3000 and the .300 cartridges. The .250 makes a good all around cartridge for eastern shooting. For a straight deer load the .300 caliber is one of the very best. This is one of the best pointing and handling guns on the market and permits the low mounting of a scope. If you prefer a lever type gun you can't go wrong on this one.

We now move into the bolt action rifles in the domestic field. We find Remington with two versions of the

same model—the 721 and 722. The 721 has a standard length bolt action and is chambered for the .270, .30-06 and the .300 magnum, and weighs 7½ pounds. The .300 magnum has a 26 inch barrel and weighs 8½ pounds and needs it. In this action with its recessed bolt head and innumerable new features which we do not have the space to mention, undoubtedly has the best and strongest bolt action on the market today. The Model 722 is a short type action and is chambered for the .257 Roberts and the .300 Savage. The stock is the best designed woods model that has ever made its appearance in a factory made American bolt action rifle. The moderate price is made possible by using stampings in unimportant parts. The workmanship is very good. Having shot two of them all summer on the range and in the field I can definitely state their accuracy is equal to any sporting rifle made and better than most. They are fairly good pointing and fast handling. All the cartridges it is chambered for, with the possible exception of the .300 Savage, are in the 300 yard bracket.

Winchester still has their Model 70 which has made an enviable record over the years, as a reliable, accurate long range rifle. The standard rifle comes with checkered pistol grip stock with semi-beavertail fore end. It is fitted with a 24 inch barrel except in the .220 Swift and .300 Magnum which is 26 inches. The weights run from 8 to 8½ pounds. The action is an improved Mauser type of ample strength and is chambered for the .220 Swift, .257 Roberts, .270, .30-06, .300 Magnum, and .375 Magnum in the big game line. These are all long range cartridges with the possible exception of the .375 Magnum. Any of these calibers will deliver, but the Magnums are a little too much gun



Photo by George Gordon

Choosing the correct rifle often determines what you'll eat in camp—beans or deer liver.

for deer with far too much recoil for the novice. The Model 70 is a poor pointer in the brush and somewhat clumsy. This is mostly due to the design of the stock which follows the target shooters' ideas far more than the eastern hunters. The workmanship and finish on some of the late ones I've seen leave much to be desired when you consider the selling price.

The least expensive bolt action is the Stevens, which retails for $49.75. This is a short bolt-throw action with a detachable clip magazine. The barrel is 21 inches long and the rifle has a well shaped semi-pistol grip stock. The model is 322 and it is chambered for the .30-30. This is a good-pointing, fast-handling woods rifle with good workmanship and design for the money asked. A lot of credit should go to Stevens for giving the hunters a fine gun for a small amount of money. It's unusual these days, brothers!

Summing things up, there seem to be two schools of thought on deer cartridges. One is the heavy round-nosed bullet at moderate velocity such as the .30-30, .35 Remington, .30 Army etc. They are admittedly more reliable on raking shots from the rear, although range is limited. They buck the brush better and may be had in light, handy rifles. A close miss of a vital spot, however, is liable to give you some tracking experience.

The other school prefers the comparatively light bullet at high velocity. They claim extended range, better anchoring power on close misses on vital parts. Brush enters more into the picture and they are not so reliable on raking shots from the rear. The rifles are usually heavier in the more powerful numbers such as the .270 and .30-06.

There are two things the novice should keep in mind. One, there will be occasional failures with them all—no man can infallably predict the course a bullet will take after it strikes. Two—you might have to carry that gun a *long* time between shots.

. . . *The End*

MAKE-DO'S AND SUBSTITUTES—SAFE AND UNSAFE

By Henry M. Stebbins

Guns

Damascus or twist barrels are dangerous with modern shot shells for three reasons: less rugged material; metal usually thin a few inches ahead of chamber, where pressures of progressive powders are still high; possibility of deep but hidden rust in the iron-steel twist. Moderate handloads with black or *bulk* smokeless are safe in sound old shotguns of this type.

Old guns designed for black powder need pretty mild factory or hand-assembled loads; early Colt single actions, rifle models before 1886, etc.

Model 10 Ross .280 rifles are dangerous because improper bolt assembly is so easy for hands unfamiliar with them.

Walther 9 m/m P-38 military pistols are subject to incomplete assembly and to breakage of the safety device.

The Italian Mannlicher-Carcano rifle's firing pin is a death trap, being insecurely anchored in the bolt.

Russian 7.62 and Spanish Mauser 7 m/m rifles, if sound, are safe with factory loads, not with heaviest handloads or when converted to use a larger or longer case, like the .30-06.

Very old .22's should be used only with "standard velocity" cartridges, not the high speed.

Old semi-automatic arms with worn sears may go full automatic without warning. Then the barrel climbs and sends shots "over the hill," which is always dangerous.

Badly worn hammerless double shotguns occasionally jar off when "on safe," and not all hammer guns of this type have safety notches to prevent discharge when a hammer slips from under the thumb that is cocking it.

.30-06 Springfields below 800,000 serial number, and Rock Island Springfields below 285,507, have brittle receivers, unsafe with heavy loads.

(More of These Next Month)



Turkey Time

By Grace O. Beach

NOVEMBER will be a busy month for all the ladies, preparing for the Thanksgiving festivities but with a feverish eye on the Christmas Holidays just around the corner. The modern Diana will be doubly busy, for many of her days will be spent tramping woods and fields hunting small game.

That requires keeping well ahead in schedule and planning so that every opportunity for a day afield may be fully enjoyed without disrupting our household. Most of us, who thrill to the chase and the crack of the gun on the frosty air have learned that our chances usually come like a bolt from the blue and when least expected. After a few disappointments because we were not ready for the opportunity, we learned to adjust our routine so as not to miss a single chance.

It is always wise to have the makings of some tasty nourishing meals on hand that can be put together easily and quickly, when you come in from the field. It is also mighty handy for the ladies who don't hunt game, but go on a shopping spree in the hunt for bargains.

We did some early planning and shopping and have set the ingredients aside in a special corner which the family dubs "Diana's Nook."

On the shelf are some cans of chili con carne. Some evening when we come in from the field it will be very easy to open two cans of chili and pop it into a casserole and into the oven to heat. While it is heating we will shred lettuce and carrots and toss them together with our favorite salad dressing and decorate with hard boiled eggs which incidentally are always kept on hand, ready for use. Make the coffee and while it is perking set the table. From the shelf we will take a can of old fashioned sliced peaches place them in dishes ready to serve with cookies which are always in the cookie jar as a matter of necessity.

This dinner is an enjoyable treat after a tangy day afield and you and your hunting partner will enjoy it. It tastes just as good after a hard day's shopping.

Another good, easily prepared dinner from the shelf will be corned beef hash, and here is how to prepare it. Open the can and place contents in hot skillet turning until slightly golden brown. Remove from fire and divide into equal portions and pat and form into cakes in the skillet with a spoon. After they have been shaped, make a depression in each cake of hash with the spoon and break an egg into each depression. Return to the fire, cover with tight lid and cook slowly until eggs are done to your liking. Lift carefully from skillet to warm plates with broad turner and serve. Stewed tomatoes, pickled green bean salad or lettuce and pineapple salad and cake or cookies and your favorite beverage will complement and round out this meal nicely.

If you are fortunate enough to have a deep freeze or freezer compartment in your refrigerator, they are most helpful in providing emergency meals. Form hamburgers into cakes, place each cake on a square of waxed paper and place as many as needed in one package. The waxed paper between each cake keeps them from sticking together and they are

easy to separate. Wrap and freeze. They are ready to pop under the broiler at a moments notice. Some pork chops wrapped and frozen provide another source. They need not be thawed before broiling if you do not have the time. They will require longer cooking time, however. A few packages of frozen vegetables and frozen french fries make excellent additions, as does a package of brown and serve rolls if you keep a package in your freezer compartment.

Try these menus for your after-the-hunt or shopping supper. Canned vegetable soup, canned sweet potatoes browned in butter and brown sugar, vegetable of your choice, pork chops, hot rolls, pineapple and cookies and your favorite beverage for dessert.

Or, chicken noodle soup, hamburgers, frozen french fries, vegetable, hot rolls, peaches, cookies and beverage.

If you can hang your apron on a nail at a moments notice, spend your day in the open, then come home and in a very short period of time turn out one of these good hot meals, tasty and enjoyable, without a ruffle on the surface, you will find the opportunities for days afield coming more often than ever before. The sportsman in your family will soon learn he has a real hunting companion, and we think he'll do a little bragging about your dual role as homemaker and playmate.

Turkey for Thanksgiving

Your editor has located and watched a nice big wild gobbler during the summer. We have a mental tag fastened around his neck for thanksgiving, with Diana written in big letters. When the season opens this lady will be camped on his trail. No one was ever more fitted for hunting wild turkeys than a woman. She has been trained in patience and that is one of the important requirements for bagging one of those prize bronze beauties. When you are out hunting keep your eyes open for signs of turkeys.

They feed on acorns and wild-grapes and scratch as they move along in search of food, piling up the leaves in a sort of drift. Once you have located their feeding grounds or a tree in which they roost, then part of the chance for getting a bird is all set for you. They will usually follow these feed lanes fairly close, and work toward their roost as the afternoon sun moves toward the west. Listen for their call for they generally chatter as they feed and you often locate them that way. That is how we found the gobbler and his flock we have spotted.

Get to the woods early in the morning and find a good spot where you can get a good view of the surrounding area and yet keep well hidden. When you have yourself comfortably settled, just sit very quietly, listen carefully and wait. That is where your patience comes in.

Don't forget to keep very quiet, they have very keen sight and are very much on the alert at all times, the slightest movement will be seen by them at quite a distance and more often than not, they spot you before you see them.

If you happen on a flock of turkeys and scatter them, do not attempt to follow them, but wait at the place where they took to the air for at least a half hour or longer. Do not move around but sit very quietly. If no one else disturbs the area the flock will usually try to get together again at the same place where they were flushed.

If you have a turkey call and know how to use it, it can help you in getting your turkey. Young turkeys will come to calls even if they are not the best imitation. Older birds are not so easily called in. Don't make the mistake of calling too often. Allow plenty of time to elapse before making a new call.

Turkeys do not have to be in a

tree to take off in flight. They usually take a short running start and it is a thrilling and amazing sight to see those heavy birds soaring gracefully into the air. They are essentially ground birds however, and if the cover is sufficiently heavy, will run rather than fly.

When on the wing they are a fast bird having been clocked at fifty-five miles per hour. So if any of you Diana's get a shot at a bird in flight be sure to take plenty of lead. Always aim for the head and neck. One pellet in the neck or head will often insure you of your prize, but they are known to carry a lot of lead in the body and still escape.

Turkeys usually seek high ground for roosting and will generally be found there after the first day of hunting where they go to seek escape.

If you have never tried turkey hunting do take a chance at it. You may be able to have a real old-fashioned Thanksgiving with wild turkey, a treat you will never forget, furnished by the Diana in your family.

If you are successful, clean and pluck turkey and prepare for roasting. Store in freezer compartment or have it stored for you until Thanksgiving time. Thaw out the turkey and stuff with the following dressing.

Roast a pint of chestnuts, peel off the outer and inner skins. Simmer in boiling salted water until tender. Put cooked chestnuts through potato ricer and combine with 4 cups dry bread cut into small pieces, 8 tablespoonfuls of chopped parsley, 2 cupfuls of finely chopped celery and leaves, 1 cup melted butter, salt, pepper and poultry seasoning to taste. Moisten all with sufficient hot water or milk to make the desired moisture. (Some like their dressing on the dry side).

When the turkey has been stuffed, sew opening shut with coarse thread or fasten with skewers and tie legs and wings securely. Rub turkey with salt and flour and place in roasting pan breast down. Brown turkey at 500 degrees and then reduce heat to 250 degrees until meat is tender. During the last half hour turn turkey with breast up for a final browning.

Make a stock by cooking together 1 cup of water, two pieces of celery and leaves chopped fine, a large onion chopped fine and several leaves of parsley. Baste this over turkey while it is roasting. If the turkey is not fat enough, put some strips of salt pork over it or spread it with butter.

We wish you the best of luck in getting your wild turkey and treating your family to a special Diana Thanksgiving Dinner. You will say its the best one you've ever eaten.

. . . *The End*

NEW USE FOR EMPTY CARTRIDGES

New life is being put in a dead rifle cartridge by the Northeastern Forest Fire Protective Commission, in an effort to call attention to increased forest fire dangers during the coming hunting season.

It all started when R. M. Evans, Commission Secretary, sent an empty .38 caliber shell to A. S. Hopkins, Director of the Division of Lands and Forests in the Conservation Department, with instructions. The hunter merely carries in his pocket an empty cartridge into which he stuffs the glowing end of his cigarette butt and sticks it back in his pocket. Result: No danger of forest fire from a carelessly flipped cigarette.

"It's a simple gimmick which deserves to catch on with the hunters," its originators said.



Pelt Preparation

By L. J. Kopp

DURING the past few years much has been written and said about proper pelt preparation. Local fur dealers, as well as national authorities on fur, have repeatedly urged trappers to become familiar with the art of skinning and caring of raw furs.

From a good trapper's point of view, trapping the animal is the minor detail. Actually, preparing a trapline, and careful preparation of all furs caught constitute the trappers most important work.

Pelt preparation is not merely a matter of skinning and stretching, actually it begins as soon as you find an animal in your trap. Disposing of trapped fur bearers can be done without first ruining the pelt. When possible, such animals as skunk, coon, and 'possum may be drowned. However this method is limited due to the fact that comparatively few are trapped at or near water. One of the most satisfactory ways of killing such trapped animals is to shoot them between the eyes with a 22 rifle or pistol, using 22 shorts.

Muskrats and minks should always be drowned by using a forked stick to hold them under water. Fox on the other hand should be killed by the generally approved method of stepping on the heart.

Animals trapped in water, or during a rainy night should be thoroughly dry before skinning. If you encounter difficulty in getting thick-furred animals to dry out, it is a very good idea to hold the animal by its hind legs and shaking it in such a manner as to loosen the wet underfur, and so encourage drying.

Another thing to remember before skinning an animal is to have a clean as well as dry pelt. Often a skunk or 'possum will have common burdock heads clinging to its fur. Then too, there may be some dirt sticking in the fur, particularly on the under side. This is especially true when such animals are caught at muddy spots along a stream, or on rainy nights when the dirt around your set developes into mud. An ordinary hair comb is a very useful tool in removing such dirt from an animals fur.

Naturally an animal should be skinned as soon as possible after it is caught. It is well known that an animal which is still warm and flexible is much easier to skin than one which has been allowed to stiffen. The main point however is to have a clean and dry fur before skinning, regardless of whether the animal is stiff or not. It is a good policy to form the habit of drying, cleaning, and skinning an animal the same day it is caught.

If it is absolutely necessary to let an animal go until the following day before skinning, it should be hung up by its hind legs in a cool, dry place —out of direct sunlight and rain, in other words.

Skinning an animal is a difficult operation to describe by the printed word, and I would strongly suggest that if you are a novice trapper with no experience in skinning you make an effort to see your local fur buyer for first hand instructions. Sometimes it is also possible to contact an experienced trapper in your own neighborhood. I also know many young trappers who trap only a few animals in spare time, and instead of going

to the trouble of skinning them, they take them direct to the fur buyer and sell them un-skinned. This is a constructive idea from the novice trappers viewpoint, but if one expects to do more trapping in later years, it would be an even better idea to learn how to do your own skinning by securing first hand instructions.

Generally speaking, to skin an animal it is first hung up by its tail. Next a cut is made from the heel of the animals foot to the base of the tail. Two such cuts are made, one on each leg. Next, grasp the fur with your left hand and commence skinning. Care must be taken not to cut too deep. It is best to cut only a little at a time until you are thoroughly familiar with the art.

Fleshing is simply a matter of scraping off all excess fat after the skin has been removed from the animal. For this purpose a dull knife is used, and the pelt is stretched over a wooden stretching board. For the average trapper it is not necessary to have a special fleshing board.

Trappers who use wire fur stretchers will need a fleshing tool, but those who use the wooden fur stretcher have a dual purpose board, as it serves both as a fleshing tool and stretcher.

This business of stretching can be misinterpreted. Actually a pelt should not be stretched. It should only be slipped on the fur form, and pulled down firmly. The important thing here is to have your pelt held in the proper shape. Most trappers buy their fur forms from commercial dealers, and these are usually correct in size and shape.

Trappers who prefer to make their own fur forms would do well to secure a chart, or correct measurements from a fur dealer. This is particularly important since animals vary in size in different sections of the State. The following measurements however can be accepted as being correct, for the average specimen:

Animal	*Length*	*Shoulder Width*	*Base*
Muskrat	24 In.	5½ In.	7 In.
Mink	36 In.	3 In.	4 In.
Raccoon	42 In.	9 In.	10 In.
Fox	48 In.	6 In.	8 In.
Skunk	32 In.	6 In.	8 In.
Weasel	18 In.	2 In.	2½ In.
Opossum	30 In.	7 In.	8 In.

All such fur drying boards should be planed and sanded. One-half inch well seasoned pine or similar boards may be used, and should be tapered to about one fourth inch or less at the tip.

With the exception of the fox, all furs are stretched fur side in. It is not correct to turn such furs as skunk or coon fur side out, although for various reasons some trappers do. These furs look much nicer when they are turned fur side out, but since they have a thick skin they dry very slowly and often mold when turned fur side out.

Foxes, after skinning, are placed on the fur form, and left that way until dry, or approximately twenty-four hours. They are then taken off, and are turned fur side out, and placed back on the fur form until properly dried. It is a good idea to varnish fox stretching boards, as it makes it easier to remove the dried skin from the stretcher.

The next important step is to take care of your furs until you are ready to market them. A building which is dry, cool, and airy would be the ideal place to keep your raw furs. When the weather is warm, it is difficult to find a place which is cool as well as dry; usually a cool place at such times is also damp. The main point is to have a dry place where air can circulate.

Usually flies may be eliminated by shading the windows. Mice often cause damage to furs, and in order to prevent this it is a good idea to stretch a wire across the room about five feet high, then hang your pelts on this wire by using small hooks made of bale wire.

. . . *The End*

1951 Pennsylvania Open Seasons for Waterfowl and Other Migratory Game Birds Under Federal and State Regulations

SPECIES	OPEN SEASONS FIRST DAY	OPEN SEASONS LAST DAY	DAILY BAG LIMITS	MAXIMUM POSSESSION LIMITS*	LEGAL SHOOTING DAYS AND HOURS (SUNDAYS EXCEPTED) BOTH DATES INCL.	HOURS (EASTERN STANDARD TIME)
Sora	Sept. 1	Oct. 30	25	25	Sept. 1 to Oct. 11	½ hr. before sunrise to sunset
					Oct. 12 to Oct. 30	½ hr. before sunrise to 1 hr. before sunset
Rails (except sora) and Gallinules	Sept. 1	Oct. 30	15	15	Sept. 1 to Oct. 11	½ hr. before sunrise to sunset
					Oct. 12 to Oct. 30	½ hr. before sunrise to 1 hr. before sunset
Woodcock	Oct. 8	Nov. 6	4	8	Oct. 8 to Oct. 31	½ hr. before sunrise to sunset
					Nov. 1 only	9:00 a. m. to 5:00 p. m.
					Nov. 2 to Nov. 6	7:00 a. m. to 5:00 p. m. but not after sunset
Doves	Oct. 8	Nov. 6	8	8	Oct. 8 to Oct. 31	12:00 Noon to sunset
					Nov. 1 to Nov. 6	12:00 Noon to 5:00 p. m. but not after sunset
Ducks (except American and Red-breasted Mergansers)	Oct. 12	Nov. 24	4 (only 1 wood duck)	8 (only 1 wood duck)		
American and Red-breasted Mergansers	Oct. 12	Nov. 24	25	(any number after first day)	Oct. 12	12:00 Noon to 1 hr. before sunset
					Oct. 13 to Oct. 31	½ hr. before sunrise to 1 hr. before sunset
					Nov. 1 only	9:00 a. m. to 1 hr. before sunset
					Nov. 2 to Nov. 24	7:00 a. m. to 1 hr. before sunset
Geese (except Snow)	Oct. 12	Nov. 24	2**	2**		
Coots	Oct. 12	Nov. 24	10	10		
Brant	Oct. 12	Oct. 20	3	3	Oct. 12	12:00 Noon to 1 hr. before sunset
					Oct. 13 to Oct. 20	½ hr. before sunrise to 1 hr. before sunset

NO OPEN SEASON—Wilson's Snipe (Jacksnipe), Snow Geese and Swans.

* Possession 90 days after close of season where taken.

** The daily bag must not contain more than two Canada Geese, but in addition include 3 Blue Geese which is also maximum possession limit.

EXCEPTIONS FOR SPECIAL AREAS: On the open waters of Lake Erie and the open tidal waters of the Delaware River lying within the Commonwealth from Trenton Falls to the Delaware State Line (not including **inland** tidal water), when shooting, from boats or blinds at least 100 yards from shore or the shoreline of any peninsula or island within said Lake or River, the Federal one-half hour before sunrise to one hour before sunset regulation applies throughout the waterfowl season, except on October 12 (opening day) when shooting before 12:00 O'clock Noon is unlawful, and on November 1, when shooting before 9:00 A. M. is unlawful.

MIGRATORY BIRD HUNTING METHODS

Permitted: Shotgun only, not larger than 10-gauge, fired from shoulder (including hand-operated and semi-automatic repeating shotgun of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun); dog; blind; boat propelled by hand; floating device other than sinkbox; artificial waterfowl decoys. Injured or dead waterfowl may be picked up by means of a motorboat, sailboat or other craft.

Prohibited: All rifles; live duck or goose decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat, or any device towed by power boat or sailboat. Birds may not be taken within ½ mile of any place where corn or similar feed is placed or exposed during or within 2 weeks prior to the open season, and it is unlawful to place or distribute in any manner corn, wheat, oats, or other grain or product thereof, salt, or any kind of feed, whereby migratory game birds are attracted or lured, and taking of waterfowl by use of cattle, horses or mules. No motor-driven land, water or air conveyance or sailboat may be used to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING

It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he carries on his person an unexpired Federal migratory bird-hunting stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. **This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock and Doves.**

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NORTHEAST DIVISION—C. C. Stainbrook, Supervisor, 987 Wyoming Ave., Forty Fort. Phone: Kingston 7-6193
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

NORTHCENTRAL DIVISION—M. E. Sherman, Supervisor, 214½ E. Water St., Lock Haven. Phone: 5400
Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—A. G. Logue, Supervisor, 327 Penn St., Huntingdon. Phone: 872
Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHWEST DIVISION—T. A. Reynolds, Supervisor, 14 W. 1st St., 2nd Floor, S.S., Oil City. Phone: 4-6281
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 331 E. Main St., Ligonier. Phone: 519
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

Pennsylvania Official 1951 Open Seasons and Bag Limits

Federal Regulations on Waterfowl and other Migratory Game Birds may be secured from License Issuing Agents or Game Commission, when available)

Open season includes first and last dates listed, **Sundays excepted**, for game. **The opening hour for bow hunting on October 15, small game on November 1 and buck hunting on December 3 will be 9:00 A. M.** Otherwise, shooting hours daily are 7:00 A. M. to 5:00 P. M. but from July 2 to September 30 inclusive 6:00 A. M. to 7:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	Day	Season	First Day	Last Day
Bobwhite Quail	4	12	Nov. 1	Nov. 17
Hungarian Partridges	2	8	Nov. 1	Nov. 17
Ruffed Grouse	2	6	Nov. 1	Nov. 17
Wild Turkeys **(see counties closed below)***	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, males only	2	8	Nov. 1	Nov. 30
Rabbits, Cottontail	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black & Fox **(combined)**	4	20	Nov. 1	Nov. 30
Squirrels, Red **(closed October only)**	Unlimited		All months except Oct.	
Hares (Snowshoe Rabbits)	2	6	Dec. 24	Jan. 1, 1952
Raccoons, by individual or hunting party*	5		Oct. 15	Feb. 1, 1952
Raccoons, by trapping*		40	Oct. 15	Feb. 1, 1952
Woodchucks (Groundhogs)	5	Unlimited	1951: July 2 to Sept. 29 1952: July 1 to Sept. 30	
Grackles **(closed October only)**	Unlimited		All months except Oct.	
Bears, over one year old, by individual	1	1	Nov. 19	Nov. 24
Bears, as above, by hunting party of three or more	2	2	Nov. 19	Nov. 24
DEER — **Bow and Arrow Season**—Male with two or more points to one antler (requires Hunting License and Special Archery License) by individual	1	1	Oct. 15	Oct. 27
DEER — **Regular Season**—Male with two or more points to one antler, by indviidual*			Dec. 3	Dec. 13
DEER — **Antlerless Season**—(requires Hunting License and Antlerless Deer License) by individuals*			Dec. 14	Dec. 15
NO OPEN SEASON—(Hen Pheasants, Cub Bears, Elk and Spike Bucks)				
FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected to Sept. 1, '52	
Minks and Otters	Unlimited		Nov. 5	Dec. 15
Muskrats	Unlimited		Dec. 1	Jan. 15, '52
Beavers (traps only), state-wide*	2	2	Feb. 15, '52	Mar. 1, '52

SPECIAL REGULATIONS*

POSSESSION AND TRANSPORTATION LIMITS of legally killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

TURKEYS, COUNTIES CLOSED TO HUNTING—Adams, Armstrong, Fayette, Greene, Mercer, Somerset, Venango, Westmoreland and York. In addition, that part of Cambria west of Highway Routes 271 and 56; that part of Cumberland south of U. S. Highway Route No. 11 to the west shore of the Susquehanna River; and that part of Franklin south and east of U. S. Highway Route No. 11 are closed.

RACCOONS—Hunting season begins at 7 A. M. on the first day, and ends at Noon on last day (see instructions below concerning trapping). May be hunted day or night, Sundays excepted. The season limit applies to hunting and trapping combined.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1951 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during bow and arrow season, issued only by Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued by County Treasurers and the Dept. of Revenue, Harrisburg, at a fee of $1.10, and **valid only in the County for which issued.** Farm occupants permitted by law to hunt without a license may also hunt for Antlerless Deer during the Antlerless Season on the same land as for other game. See Digest issud with hunting license for details. Under the law, **no application for an Antlerless Deer License shall be approved, or license issued, to a non-resident prior to November 14, or after December 13, 1951.**

BEAVERS—No trapping at Commission-posted dams. **Non-residents may not trap beavers. One person may set, tend or operate 10 traps only.** Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or water line to facilitate identification without disturbing traps. **Pelts must be tagged within 10 days after season,** and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers and raccoons not to be placed, staked or set before 7 A. M. on the first day of the open seasons. The season on the last date indicated for Trapping closes at 12 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (7-10-51)

REGULATIONS FOR UPLAND GAME FIXED BY PENNA. GAME COMMISSION AT MEETING JULY 5, 1951.

1951 HUNTING LICENSE IS VALID SEPT. 1, 1951 TO AUG. 31, 1952, BOTH DATES INCLUSIVE.

PENNSYLVANIA

Game News

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THE STORY BEHIND THE COVER

STATE Game Lands pay financial dividends as well as recreational dividends. Good game management on these areas includes among other things the sensible harvesting of certain timber. Sometimes it is necessary to remove mature trees where the stands are especially thick in order to make room for new ones. Such cuttings or thinnings let sunlight filter into the forests which encourages the growth of succulent plants that are readily eaten by deer and other forest wildlife.

Some cuttings provide pulp or chemical wood; others saw logs like those being scaled on the truck above. Scaling the logs at the left is Tom McKeon the assistant on one of the Commission's wildlife management projects. Tallying McKeon's figures is Sam Kern the land utilization assistant in the Commission's northcentral division. Project workmen in the background are moving other logs into place for loading.

Through such undertakings the sportsmen receive some cash return on their investment and wildlife benefits as a result. The temporary browse which is provided when timber is harvested is quickly eaten by deer and the branches, which are often made into piles, furnish ideal cover for small forest game. Den trees are also left standing for cavity nesters such as raccoons, squirrels, and other tree-inhabiting creatures.

DO NOT REDUCE THE DIVIDENDS WHICH ACCRUE FROM GAME LANDS BY DESTROYING THE CAPITAL INVESTMENT—PREVENT FOREST FIRES!

PENNSYLVANIA Game News

Published Monthly
(Semi-Monthly in September and March)

by the

Pennsylvania Game Commission

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

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Please report all changes of address promptly, sending both your old and new addresses. Address all communications to the Editorial Office, Pennsylvania Game Commission, Harrisburg, Pa.

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AS Christmas approaches, people everywhere relive the old year and weigh its joys and sorrows, its disappointments and achievements against those of other years. The Game Commission is no exception. We have reviewed the past twelve months and we are happy—happy because the wildlife conservation program progressed encouragingly—happy because of the many friends who made that progress possible. The wildlings of the fields, woods and forests have no way of expressing their appreciation of the many things which have been done to help them by so many groups and individuals. We of the Commission must proffer their thanks, and we do it most sincerely and most humbly.

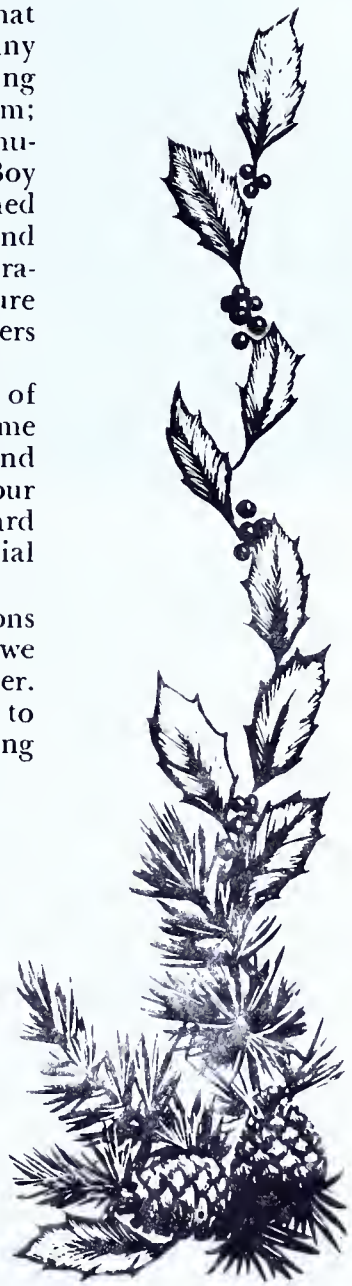
We thank our Governor and our lawmakers for what has been done to help us; the sportsmen for their many worthy projects; our educators and teachers for making conservation an integral part of the school program; the sports writers, press, radio and television for stimulating interest in the cause; the Future Farmers, Boy Scouts and other youth groups for having furnished food and cover for wildlife; other state, federal and private conservation agencies for their splendid cooperation; the Women's Bird and other civic and nature clubs for their active participation; and the publishers of our literature for their interest and dependability.

We are everlastingly grateful to the landowners of the Commonwealth, and especially to our Farm-Game and Rabbit Farm Cooperators for their generosity and their assistance; our deputies for their faithfulness; our field and office personnel for their loyalty and hard work; and our executives for their efficient and impartial administration.

And so, with gratefulness to all who made conditions for Nature's children so much better during 1951, we extend our best wishes for the merriest Christmas ever. May the New Year find all of us pulling together to make 1952 the biggest and best in Pennsylvania's long history of wildlife conservation.



A
Merry Christmas
and a
Happy New Year
With
Thanks to All



"Like a Wasp— It Stung Him"

By W. C. Shaffer

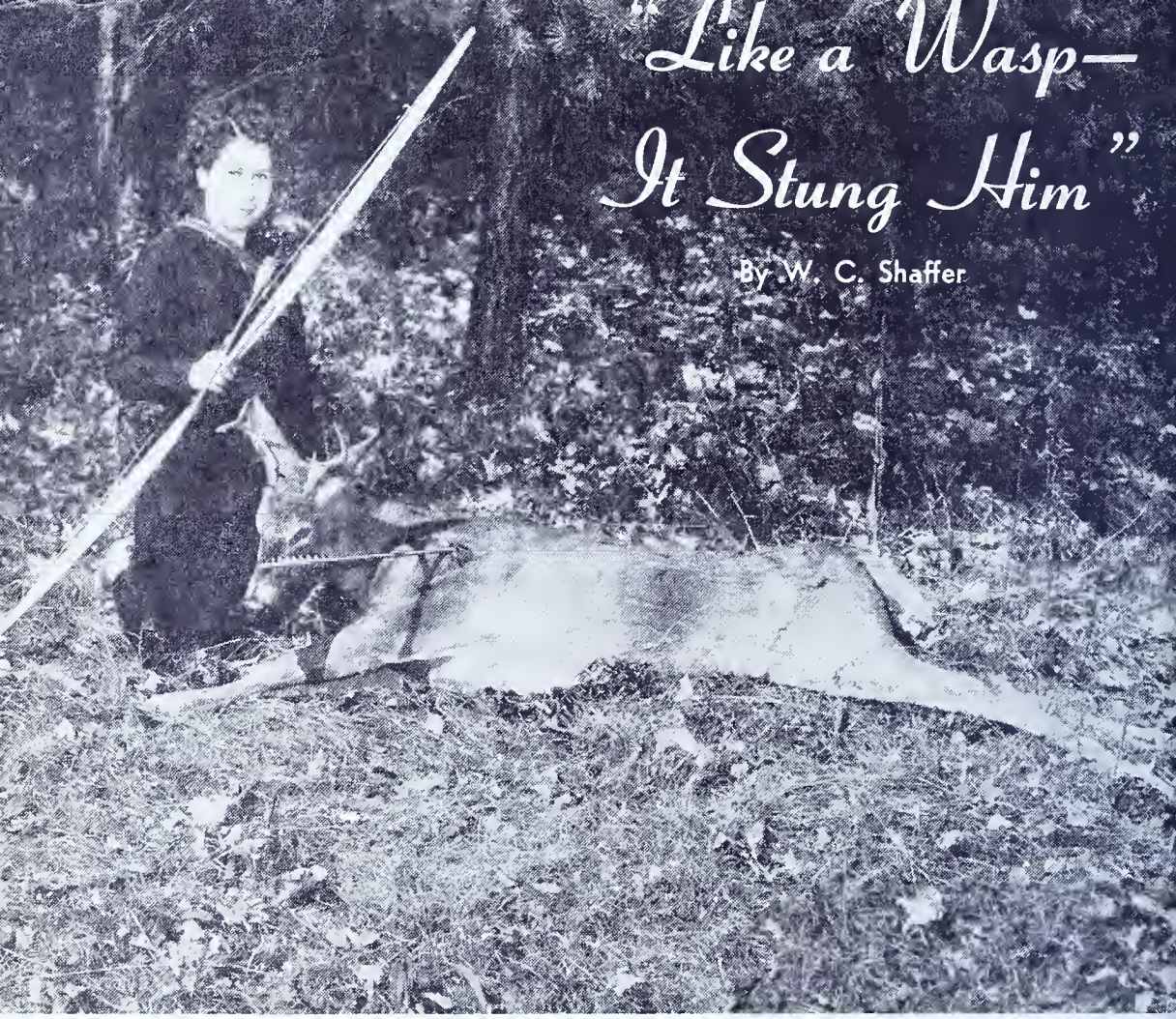


Photo by A. L. Lewis Studio.

"UGH! Ugh! angrily snorted Karoniasa (meaning "New Sky") Swamp on July 17, 1922. Little wonder. A messenger brought him word that his wife Tekonwakonian ("Two Rivers") had just presented him with a brand new papoose, and of all things—a squaw.

The first born to this couple who lived on the shores of the St. Lawrence River in the St. Regis, Mohawk Indian Reservation at Hogansburg, Franklin County, New York, was a boy. Papa Swamp hoped that the second child would also be a boy: then he would have two braves to roam the forests with him in search of game. But a squaw!—Ugh!

The newcomer was promptly named Karonianonron ("Expansive Sky"). Later in life she chose the name of Anna. Today she is Mrs. William E. Johnson of Summerville, Jefferson County, Pennsylvania, the mother of two delightful black haired, dark eyed youngsters; a girl three, the boy one. Both children resemble their mother and unmistakably bear the imprint of their maternal ancestors, the Mohawk Indians of the Iroquois Confederacy.

Little did the Swamps dream that on the late afternoon of October 16, 1951, this daughter was to achieve a distinction that never again can be equalled in Pennsylvania: Anna Johnson killed a six point buck deer, weighing 135 pounds (hog dressed) with a bow and arrow—the first person to report such a killing in the new Pennsylvania special archery season.

The 1951 session of the legislature passed the bill which would permit the killing of deer with bow and arrow. Governor John S. Fine

promptly approved the legislation on June 28, 1951. The Game Commission, authorized to set the open season, declared male deer with two or more points to an antler to be legal quarry between October 15 and October 27, 1951, Sunday excepted.

Mrs. Johnson was now definitely interested; so much so that on October 10, the Pennsylvania Department of Revenue, as issuing agents for the special permits, mailed to her permit 2557.

From this point the story goes like this:

"On the first day of the season our party hunted unsuccessfully in the Munderf-Richardsville section of Jefferson County. Returning home that evening my three year old daughter was angry—even refusing to sit on my lap—because Mommy didn't get a deer."

"Miles Garvin, a member of our party, suggested that on the following day we hunt a section in the Boone Mountain, Huston Township, Clearfield County, with which he was familiar. This area lies about five miles north of Penfield. Having no better place in mind we all agreed. I was the only woman among eight in our party which included my husband."

"Shortly after seven in the morning, Miles placed several of us on watches. He and two other archers circled some deer which we had observed feeding in the fields. An hour passed; nothing happened. Then five antlerless deer came so close to me that I could have touched them with my bow. Other drives that morning were unsuccessful; then we had lunch."

"Shortly after noon while I was standing on watch Miles saw a buck deer headed towards me. Unaware that the deer was nearby, apparently I turned my head to watch in the opposite direction. At any rate I didn't see it."

"Two-thirty found us back in the Boone Mountain section. On the first drive while I was on watch a doe came through quite some distance away."

"Another deer came into sight in the distance. I couldn't see whether it was a buck or not. When within about forty yards from me it shook its head as if to free its horns from the brush. *Then I saw the antlers!* Nocking my arrow, I fired. The arrow imbedded itself in the deer's left shoulder. It hesitated a moment. Slowly the deer moved away diagonally to me. About seventy-five yards distant it stopped, broad side. Racing towards the deer I loosed a second arrow from about forty yards, which hit the deer again in the left shoulder about three inches higher than the point where the first arrow had entered. The deer dropped. (As in Longfellow's immortal *Hiawatha* —"Like a wasp it buzzed and stung him!") I ran up to it and from about ten yards drove a third arrow into its neck."

"Did the experience frighten me? No, I was quite calm until after the deer was dead. Then I tried to call for help, but honestly—the words just wouldn't come out of my mouth. Walter Rodgers, one of the members of our party saw the entire incident and arrived very soon."

"All three arrows remained in the body of the deer. The first was driven six inches deep breaking a rib: the second was imbedded two inches deep in the shoulder bone. The head of the third arrow passed through the neck protruding about an inch." (Stanley Forbes, Game Commission Research Technician, who examined the jaw bones of the deer, found the animal to be slightly less than 3½ years of age).

Mrs. Johnson a five foot three, one hundred and twenty pound, black haired, dark eyed woman uses a 30 pound lemonwood bow with 26 inch

metal broadhead arrows. No sights were used; aiming was instinctive.

Querried as to any previous hunting experience she added that she had none prior to October 15, 1951. In fact she has never discharged a firearm in her life. "My father died when I was quite young. There was no time for hunting. I had to work to help support my mother, brothers and sisters. My husband dislikes hunting but enjoys archery. We practice together in our back yard when household duties and the care of our two children permit. Two years ago we joined the Pine Creek Archery Club, a branch of the Emerickville Sportsmen's Club. Occasionally we find time to do a little range firing."

Mrs. Johnson also has other accomplishments to her credit. She is a graduate beautician, an expert basket weaver and served two years in the Medical Corps of the WAC's as an ambulance driver at Camp Pickett, Virginia.

Proudly we salute Anna Johnson as a sportswoman and heartily congratulate her upon her success, hastening to add that it couldn't have happened to a nicer person.

What disposition was made of the deer? Well, the head is in the process of mounting, the three arrows are carefully tucked away—to refresh fond memories in later years of an historic day afield in Penn's Woods, and the venison is in cold storage.

Anna's sincere hope is that she can gather together her three sisters, two brothers and her fifty-seven year old mother to enjoy a traditional Indian venison feast. Missing, but not forgotten, will be her father, Karoniasa Swamp, who departed this world for the happy hunting ground in 1932, unaware of the latest accomplishment of his distinguished daughter.

. . . *The End.*

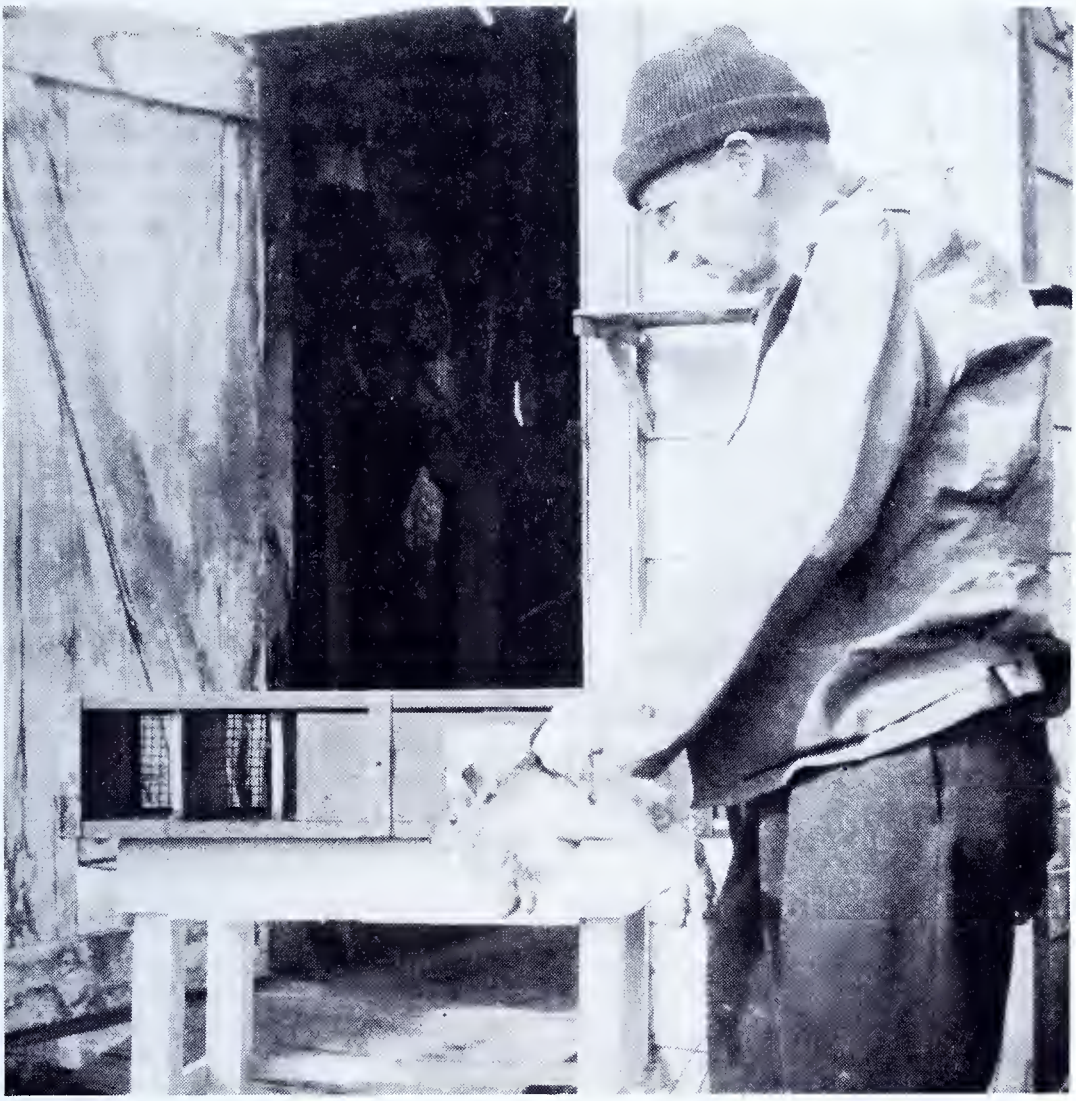
HOW TO SECURE AN ANTLERLESS DEER HUNTING LICENSE

Application forms for anterless deer hunting licenses can be obtained from any County Treasurer, any hunting license issuing agent, the Pennsylvania Department of Revenue or the Pennsylvania Game Commission at Harrisburg, Pennsylvania.

To obtain an anterless deer license, first secure your resident or nonresident hunting license, then submit a completed application and the fee of $1.10 to either the County Treasurer *in the county in which you intend to hunt* or to the Department of Revenue, Room 304, Finance Building, Harrisburg, Pennsylvania, *naming the county for which license is desired.*

The antlerless season is December 14 and 15 only. Licenses are not transferable, valid only in the county for which issued, and are void if the holder kills a deer during either the regular buck season or the special archery season.

Although there are three separate deer seasons this year, each hunter is permitted to kill *only one deer* during the combined seasons.



Dividends From A Winter Trap Line

By Thomas A. Forbes

MORE than one-third of the rabbits released on lands open to public shooting in Pennsylvania are trapped by conservation-minded individuals during the winter months on areas closed to public hunting.

Sportsmen realize that a covert depleted by gunning in the open season needs breeding stock in order to provide a reasonable amount of shooting in the fall.

According to the Biennial Report of the Pennsylvania Game Commission for 1949-1950 imported western rabbits were of such quality that the mortality rate after liberation ran

excessively high. Each imported rabbit cost the Commission $1.13.

Undeveloped land within the limits of municipalities and suburban residential districts appears to provide an ideal habitat for rabbits; as any amateur gardener who attempts to start a crop of beans in the early spring or the suburbanite whose shrubs and young trees are denuded of bark during the winter can testify. These areas are natural rabbit farms and property owners are delighted to grant permission to set traps for rabbits on their land.

For each rabbit trapped and turned over alive and in good condition to an officer of the Game Commission, the Commission pays seventy-five cents.

An individual desiring to engage in a rabbit trapping project corresponds with the Pennsylvania Game Commission at Harrisburg and secures a trapping permit. An officer of the Game Commission within whose jurisdiction the rabbits will be trapped will make personal contact with the trapper, after the permit is issued, and deliver box traps and a holding pen. The holding pen consists of a box divided into six individual compartments. Traps are visited daily by the trapper and rabbits placed in the holding pen at the trappers residence where they are picked up at designated intervals by an officer of the Game Commission. The rabbits collected in this manner are taken to areas open to public shooting and released.

Traps are distributed immediately following the big game season and the trapping period ends during the latter part of February before the first litter of young rabbits is due in the locality.

If you plan to trap rabbits take advantage of the early snows to select the area in which you will locate your traps. Take note and mark the runways used by the rabbits. Although they forage widely for food rabbits follow well defined runways in traveling from one part of their range to another.

Apples make excellent bait. Cut a medium sized apple into quarters and rub a piece on the sides of the trap at the entrance and rub lightly over the outside of the wire screening at the back of the trap. Stand the trap on end and drop the apple quarters into the trap so that they will be in the small well next to the wire screen. Make certain that the door and the trip board work freely. Clean out any foreign material that would interfere with their operation. A narrow bladed putty knife is an excellent tool to carry on the trap line. With it frozen material may be loosened and removed so that the trip board and door function properly.

To set the trap after it has been baited, place the trap in the desired location with the back or screen end facing the direction of prevailing winds so that snow will not drift into the doorway. Insert one hand into the trap and hold the door against the top of the trap with your thumb. With your little finger raise the front of the trip board. Then with the thumb and index finger pull the wire trigger forward until it supports the bottom edge of the door. Check the trap by tipping up the front end of the trip board to see that the whole setup works easily.

Each time that you visit your traps you should check each one by tripping it by hand. This is especially necessary in cold weather as moisture often freezes in some part of the mechanism so that the weight of a rabbit will not be sufficient to tilt the trip board.

To transport the rabbits from the traps to the holding pen, a two bushel, cotton, scratch feed bag secured from your local feed dealer provides a convenient and safe carrier. The bag can be folded and carried in a pocket when not in use.

Contrary to popular belief rabbit

ears are not designed to be used as handles to remove a rabbit from your trap. A rabbit has a powerful thrust with its hind legs and if lifted by the ears will jerk and kick, creating a problem to get it into your bag which must be held open with one hand. If you do succeed you will probably have the hand holding the mouth of the bag scratched painfully by the flying claws of the rabbit. I use a safe and easy method of transferring the rabbit from the trap to the bag and from the bag to the holding pen with little danger of the rabbit slipping from my grasp and scaping and which does not injure or cause any apparent discomfort to the rabbit.

Stand the trap on end, door end up. Shake the trap so that the rabbit slides to the bottom as it is generally crouched against the door end of the trap. Push the door open and reach into the trap and grasp the rabbit with the thumb and first three fingers of the hand around the back immediately forward of the hind quarters. The fingers and thumb form a small circle around the thin section of the rabbit between the chest bone structure and the hind quarters. A rabbit held firmly with this hold will remain quiet after one or two efforts to escape and can be inserted into the bag without danger of having a hand raked by the rabbits claws.

Keep count of the rabbits and the date, place, weather, and ground conditions under which they were caught. A record of this kind can be referred to in succeeding seasons and it beats trying to remember where, when, and how many rabbits were taken. As rabbits are trapped from an area the interval between catches increases. After you have kept a record for one season you will have a pretty good guide for determining the length of time that you should leave your traps in one area and the number of rabbits that you can expect to trap in that location. You need not expect to get all the rabbits in any given area. I find that plenty are left for breeding purposes.

The officer of the Game Commission will keep his own record of the rabbits he collects from your holding pen and following the end of the trapping season you will be paid by check in one lump sum sent directly to you from the office of the Game Commission for the total number of rabbits that you have trapped.

To facilitate the work of the collector, I place a sign in one of the windows of my residence which can be seen from the highway. On the sign I mark the number of rabbits which I have in my holding pen. If I have been fortunate and have more than two the collector will carry an empty holding pen and exchange it for the one containing the rabbits. If my luck has been poor and a zero shows on the sign the collector saves the time necessary to examine personally the holding pen for rabbits. Holding pens should be placed, if possible, in a tool shed, garage, or other outbuilding that is unlocked and is accessable at all times to the collector. Rabbits held more than twenty-four hours should be given some lettuce or cabbage leaves or a piece of apple for food. They will not need any water.

There are more dividends in running a winter trap line than the money received for the rabbits. Predators are occasionly caught in the traps. The opossum is the most frequent of the unwanted guests in my locality. As the opossum likes a diet of the eggs of ground nesting birds, ringneck pheasant and quail nests suffer where these animals are present. Opossums are on the unprotected list until September 1, 1952. What has been said about the opossum also applies to the skunk. Dispose of him too if caught in your box trap and that brings up the very natural question of how? If you have a permit to carry a revolver part of the problem

is solved. This is how I would suggest you let a skunk out of the trap. Stand at the side and use a long stick to roll the trap over on its top. If the door does not fall down push it open with the stick while standing well to the side of the front entrance. It has been my good fortune in five seasons of trapping that I have never trapped a skunk. I have read of folks who have made pets of them and that a skunk will not use his peculiar power if you let him alone. But I want that trap and I am afraid that he will guess that I have designs on his person when I find him in it. I only hope that I find out that he is in the trap before he decides I am his enemy.

Not all the game that you see is in your traps. Make it a habit, especially when snow covers the ground, to look over the area seventy-five yards or more ahead and on each side. Many times, if you stop, your eyes will pick up movement which turns out to be rabbits or ringneck pheasants that do not welcome your company. On such occasions I always speculate on how game probably does exactly the same thing when I am gunning in the fall and I never see it, due to its protective coloration. One day in the early part of February I ran the trap line in the late afternoon during a snow storm accompanied by a cold wind. In a brier patch ahead of me I saw several ringnecks running over the snow. When the birds raised, they flew only a short distance. As they were going in the same direction as my trap line, I raised them three separate times in a distance of approximately a hundred yards. On the last rise they flew across a corn stubble field and I counted twenty-three birds. Surely, I think to myself, some of those birds or their off-spring will move to open shooting ground in the immediate vicinity before next November.

Out in the territory where the setter and I do our hunting we found a covey of quail on the next to the last day of the open season. There were about twenty birds and we worked them for the pleasure that it gave both the old setter and myself. Quail are rare in our area and we did not kill any. After all we had killed a grouse or two and some ringnecks during the season so I did not feel that I had to have quail on the table. This winter we had two heavy snows which lay on the ground for several days. I have taken feed to the area where we found the quail, which is less than a mile from the location of my traps. Compared to the closed area where I trap and where the snow is covered with rabbit and pheasant tracks, this open shooting area is almost devoid of tracks. I have to search for the track of a single rabbit or pheasant and on two separate trips over the area to distribute feed I did not see a piece of game.

We buy and import rabbits for stocking. We raise day old chicks to release in our coverts. Are we, the sportsmen, passing up a game crop which is ready to harvest right in our own back yards? From my personal observation the answer is yes. We should assist in restocking our coverts each winter by trapping from the abundant supply of game living in our municipal areas closed to public hunting.

If you cannot spare the time necessary to visit a line of traps daily you can encourage that son of yours to do so. He will really enjoy it and earn some spending money at the same time. If properly advised and encouraged your local troup of Boy Scouts is an excellent group to contact. By all means if you can find an hour a day to tend a dozen traps yourself you can increase the game supply in your local open shooting territory for the next hunting season.

Properly clothed to protect yourself from the cold, nature in her winter coat has much to offer, and maybe a little outdoor exercise is just the thing you need.

. . . *The End*





Outdoor Kids

By Hal H. Harrison

ONE afternoon during the Christmas holidays, Billy and Jane walked along a road that they had not seen since last summer.

Here they noticed the old teasel stalks standing erect by the roadside, rattling in the cold winter wind.

Billy and Jane remembered the teasels.

Long before the blossoms faded and the seeds were tossed away by autumn gales, and long before the leaves dropped from the tough stalks, the children had discovered that this was one plant which you did not grab just anywhere.

The teasel wears a suit of tough armor from top to bottom. The leaves are coarse and prickly, and the stems are ridged and thorny. Cattle shy away from the teasel, for even its juice is disagreeable.

The sharp spines on the empty heads of the teasel flowers in winter are so close together that they hold water well. New England housewives once used them to sprinkle clothes for ironing.

A close relative of the common teasel, called Fuller's teasel, was once

used to brush up the nap on wollen cloth. Billy tried to roughen up the yarn on Jane's tassel cap, but the teasel stuck fast.

One day the children surprised their mother by presenting her with a vase filled with teasel heads, all beautifully colored. By dipping the dried heads of the flowers into an assortment of paints, the winter plants took on a brilliance that they never had before.

The teasel's blossoms are lavender. Blossoms in the center of the spike bloom first. From there, they blossom up the spike and down the spike, eventually leaving the middle of the spike bare.

Bees are fond of the blossoms, and teasel honey is especially delicious.

Like a great many other roadside weeds and flowers in our country (chicory, Canada thistles, hawkweeds daisies, Queen Anne's lace, and dandelions), the teasel came to us from Europe and Asia. It is now common along the Atlantic coast and as far west as Michigan.

. . . *The End*

MATHEMATICAL GAME WARDEN

The pre-season, in-season and post-season headaches of game wardens and conservation officers are many and severe. In no attempt to alibi for failure to stop all game law violations in his district, Conservation Officer R. H. Marshall recently boiled down, into percentage figures, his chances of apprehending a pre-season squirrel hunter and submitted the following the West Virginia conservation commission.

"Suppose a man is going to hunt in a certain patch of woods some day in the week. It is seven to one the officer can't guess which day. As he will hunt either in the morning or the afternoon, it is 14 to 1 the officer can't guess the right time of day. Since most hunting is done from 6 to 10 a. m. and 4 to 7 p. m., that makes the odds seven times 14 or 98 to 1 that he won't hear a shot in that patch of woods. Suppose there are 1,000 woodlots in the county, that makes 98,000 to 1 the officer can't guess the day, the hour or where in those 1,000 woodlots the hunter will be. Of course, if 25 men are hunting at the same hour on the same day, that reduces the odds to 3,920 to 1 that we will catch the hunter if we hear the shot. Since we don't catch more than 1 out of 10 hunters we hear shoot, that runs the odds back to 39,200 to 1 that we won't catch any one. So, you can readily see that a poor conservation officer has about the same chance of catching a squirrel hunter as he does of winning the Irish sweepstakes."

. . . from *Remington Newsletter*

THINGS YOU MAY NOT KNOW

The dyerbok, an African antelope, when aware that it is observed, will crouch in the grass as if to lie down, then crawls away for several yards and makes a dash for safety.

* * *

A deer's antlers grow so fast that the process is almost, if not wholly, without parallel in the animal kingdom.

* * *

The earliest known member of the giraffe family was much smaller than the present animal. It had a shorter neck and was less than six feet high at the shoulder.

* * *

The female goshawk is much stronger than the faster-flying male.

* * *

The Koala Bear of Australia is not a bear, nor even remotely related to the bear family. It is a slow-moving, tree climbing marsupial with an India rubber-like nose.

Reload To Keep Shooting

Part III

By Ed Shearer

THE whole story of modern ammunition evolved around the primer. It being the heart of the cartridge, improvements from time to time depended on the primer keeping pace. The problem was far more complex than the simple matter of igniting a powder charge. Stability, working pressures, effects on cases, storage and various other problems plagued the manufacturer and still do.

The only type primers today's reloaders are likely to come in contact with, are the rapidly disappearing non-mercuric and the modern non-corrosive primer.

The non-mercuric primer was the first successful primer to be used with smokeless powder, as far as reloading the brass case was concerned. The old mercuric primers in use prior to the advent of this primer attacked the brass structure of the case, causing breaking-down of the brass. The non-mercuric primer which superceded the mercuric type was made up of potassium chloride and antimony sulphide. When these two elements are mixed together they have a tendency to combine under heat, resulting in three separate chemical combinations—potassium chloride, antimony oxide and sulpher dioxide. It has been proven that potassium chloride was responsible for the rusting and corrosion of gun barrels. unless you happen to find some non-mercuric primers which have been on the dealers shelves for years, which is not likely, or buy primers from the government through the Director of Civilian Markmanship, you will not be troubled with them. In case you do use them be sure to clean your gun with water, as oil solvent will not dissolve salt.

The first non-corrosive primers were brought out by Remington in this country. As far back as 1910 the Germans were using it. There are two dangerous ingridents used in the mixture, barium nitrate and ground glass. At this writing at least one company has eliminated the glass. As matters stand if you have a primer explosion that breaks the skin, hie yourself to a doctor and get a shot of anti-tetanus at once.

Non-corrosive primers are here to stay. Formulas are being improved so rapidly that the problem of ignition and barrel wear are being reduced to a minimum. The most important factor is to use the particular primer designed for the particular cartridge you are loading. To use revolver primers in rifle cartridges is asking for trouble.

Al Woodworth, of Springfield Armory, is quoted as stating, "There is one thing handloaders should be careful about and that is non-corrosive primers. I have seen many handloaders dump them out of a carton into a bottle or a can, a whole lot of them at a time. It is a good idea to cork them up but one should handle them respectfully. I am against using a primer magazine on a loading tool primarily for this reason. In all my experimental loading I feed my primers one at a time. You just have to see one blow to realize what a volume of power there is in a column of primers. The last one I saw let go, blew down through one inch of oak table top and into the floor and up

through the loading operators hand. This from one of the country's top ammunition experts.

What Mr. Woodworth says is true about any primer to a greater or lesser extent, but the non-corrosive primer seems to be more senstitive to careless handling than the old type. Personally, in many years of reloading I've never had one let go, nor did a friend with whom I reloaded with for many years. But a gentle touch should be cultivated, nevertheless.

Primers should never be stored in the sun, or excessive heat, or in any damp place. I've always kept mine in the original cartons in a dry room, sometimes as long as five years without any trouble.

It may not be amiss here to caution any curious brother against the dissecting of any live primer. This is strictly a laboratory job. Whenever you attempt to remove the anvil of a primer there generally are fireworks.

It's a horse of another color to decap already primed shells provided the primers are not crimped in. (I still prefer to shoot mine out.) When this is the case they usually blow. In priming for the best accuracy use the same make primers in the same make case.

There are four different size primers in general use. They are designated as large rifle, large pistol, small rifle, and small pistol. Different loading companies assign their own numbers to them but different classes are the same regardless of number.

In priming some chaps develop the habit of slamming the seating punch home. This is a decidedly poor habit and may explode the more sensitive primers. At the best, any time saved pays poor dividends. Actual tests of ammunition primed this way, although they apparently fire alright, when fired from a bench rest showed groups several times larger than properly primed cases.

Here are some good rules in handling primers:

Seat the proper size primer gently, but firmly, to the bottom of the primer pocket, but no more. Too much seating pressure would distort it. Too little will allow the primer to protrude and cause a premature explosion before the action is locked.

Use seating punch to fit primer. Ringed and mutilated primers will not give uniform ignition.

Watch primer pockets in case heads. If primer seats too easily you are either using the wrong size primers or the primer pocket is enlarged. If the latter, discard the case as it's dangerous.

If primer is blown or falls out when the action is opened there is something wrong. Either an enlarged pocket or excessive pressure. Find out.

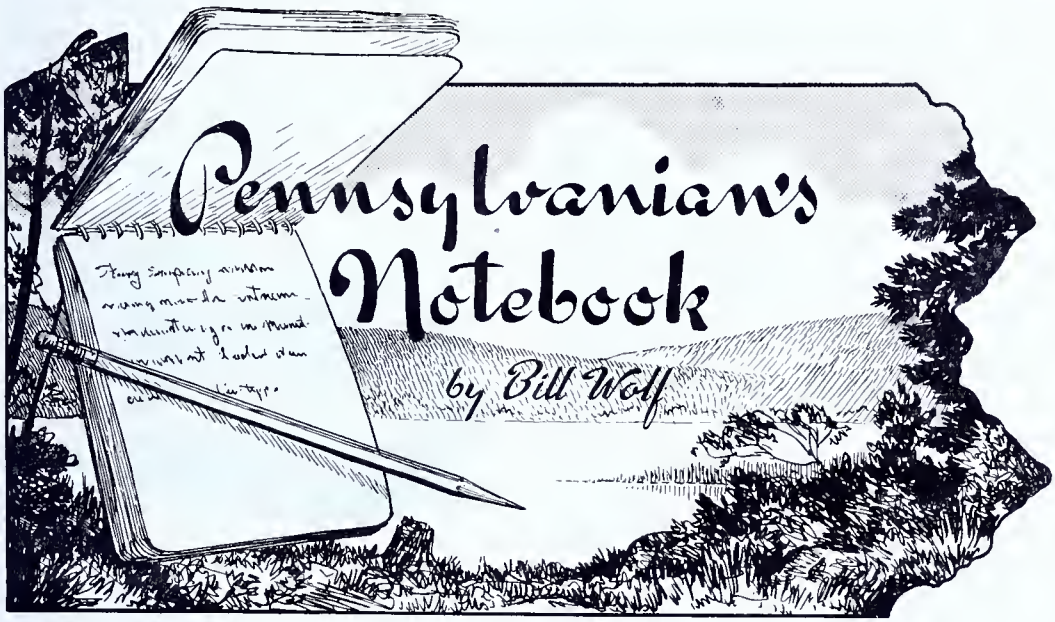
When gas pressure has blown out a section opposite the firing pin, stop right there and reduce the load several grains. Pierced primers spell trouble.

Primer leak is another sign that should not be ignored. It's due to gas leaking around the walls of the primer pocket and may be caused by primers of improper size, excessive pressure, powder in the primer pocket, stretched case head, or too soft cartridge brass. Find out the cause before further firing.

Punctured primers are caused by excessive firing pin length, thin primer cup or improper shape of firing pin.

Priming requires ordinary intelligence and extreme care on the part of the handloader. Begin slowly and let speed and skill develop with practice. Caution is the watchword, but thousands of rounds are being loaded by beginners all over the country every day with no trouble. Take it easy and keep the rules of common sense repriming in mind, because here there is more of a chance to make a serious and dangerous mistake than in any other phase of handloading ammunition.

To Be Continued.



PART VI

DOWN in Texas a couple of years ago I attended a "hunt breakfast." This was given in the commissary of the King Ranch, and it was a nice gesture since it was for the townspeople of Kingsville and other guests of the ranch for that day of hunting, but it consisted of bacon and eggs, bread, coffee with evaporated milk, and I couldn't help but contrast it with some of the breakfasts I have enjoyed in my own state. In upstate Pennsylvania, we simply did not go hunting on such breakfasts. We always had more varied and endurable fare, and I still look upon bacon and eggs as a city office worker's breakfast, and would rather go without than sit down to such every morning. Actually, I usually do go without, contenting myself with coffee until about noon, because the old-style breakfasts were meant for a hard day's work or fun in the field.

However, if I intend to spend the day hunting or fishing, or in any outdoor activity, I want something more substantial for that first, and most important, meal of the day. Such an occasion calls for a Pennsylvania breakfast, than which I doubt there is any better thing. At least, I have never found it over the nation.

Let's take country sausage as a starter. We used to make our own, and I spent quite a few hours cutting up pieces of pork *and* beef, putting the chunks through a food grinder, and then pressing the seasoned meat into chitlings, or the small entrails washed and cleaned to serve as casings for the sausage. Some of it we "fried down" to make it keep longer. This consisted of frying loose sausage until well done, packing it in a sterilized stone crock or glass jar, and sealing it against the outside atmosphere with a cap of lard. Some fresh sausage was smoked, of course, to preserve it.

In any of these forms, country sausage is good and firm. The addition of beef gives it substance, and one can sink his teeth into it. In comparison, consider the "pure pork sausage" so popular in the stores today. There is nothing wrong with it. It has a good flavor. It is made by

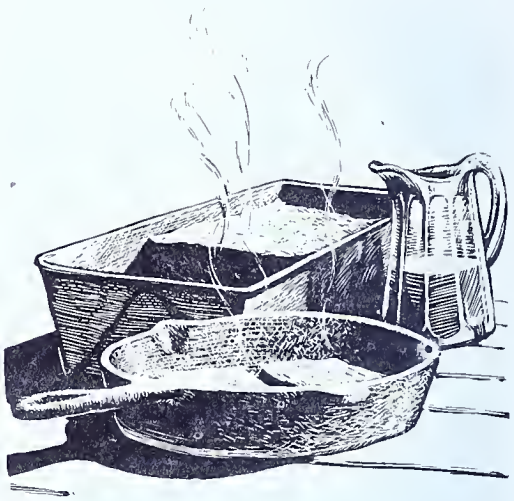
any number of reputable butchers and meat-packing firms. It is popular with housewives (especially in the cities) because it comes in such cute little links. But it simply isn't the equal of good upstate country sausage. The cute little links fry down to something the size of a man's little finger. Nothing to chew on.

Even in bulk form, when shaped into large cakes, "pure pork sausage" diminishes in bulk as the fat fries out until the man-sized cake that went into the pan emerges as a little silver dollar-sized speck of meat.

Not so with country sausage, whether fresh, fried down or smoked. The addition of beef gives it body. A link of country sausage one inch in diameter when it goes into the pan, emerges from it one inch or more in diameter. In its heartiness, it may even swell a bit. Furthermore, it is better seasoned as a rule. Sometimes the maker may get too much, sage, ginger or red and black pepper into it; but usually it tastes like something. I do not mean it should taste like the seasonings that go into it; but it should have the essence of the flavorings as a background taste.

I remember a horrible time on a deer hunting trip when we had too much red pepper in our country sausage, and had to pretend we enjoyed it. We had made the mistake the year before of telling Mammy Keiper (that's what we called her up in the Poconos) that the sausage she seasoned was rather flat, not as tasty as it might be. So, the next year she really made it hot. We went into the woods each morning when sausage was served with a red pepper breath that flamed and steamed in the cold air. I still don't know whether it was accidental, or whether she decided to burn the roofs of our mouths and destroy the taste buds of our tongues.

At any rate, the right pork-and-beef country sausage should have substance without coarseness, flavor without fire.



* * *

Sausage seems to have a natural affinity for pancakes, and it is usually served with them; but the countryman usually thinks of sausage and fried potatoes for breakfast. I know that when Ira Knorr and I make breakfast together in the morning before anyone is up at his place at Fern Ridge we start the sausage with a bit of water in the frying pan, cover it, let it parboil and then peel and slice potatoes for frying. By the time the sausage is sizzling in the pan, after the water has evaporated, the potatoes are well on the way to being fried. If we feel like it, we have eggs, too.

I recall a frosty November morning down at Muddy Creek Forks in York county. Three of us were going small game hunting, and the wife of the friend I was visiting made what I consider a typical Pennsylvania "hunt breakfast." We had smoked sausage, pancakes, fried eggs, and fried potatoes. Fortified thus, we stepped out into the crisp air and the world of white frost and hard-frozen ground, warmed and sustained, ready to keep going until lunch.

However, it must be mentioned

that the pancakes we ate, and those which I still make for myself, did not come out of some ready-mixed package. There is nothing wrong with such hot cake mixtures, except that they produce a spongy and rather tasteless pancake such as you get when you order "hot cakes" in a restaurant. Much better are the home-made "flannel cakes" or egg cakes.

If you would duplicate in your kitchen the kind of griddle cakes I mean, proceed thus: Sift together 1½ cups of flour, three tablespoons of sugar, a teaspoon of salt, 1½ teaspoons of baking powder in a mixing bowl. Add four eggs, three tablespoons of melted butter, and milk enough to make a batter of the right consistency. Simply blend these ingredients together, do not beat or otherwise try to smooth the mixture. The lumps that appear in it are all right. It has enough milk when the batter pours easily off the spoon into the pan, and spreads out. Make cakes about 8 inches in diameter, and not the dainty little dabs so commonly seen. When bubbles appear on the top, turn and fry the other side. The sugar in them browns them, the butter keeps them from sticking to the pan (although I prefer them fried in hot fat, even if it isn't necessary).

We also had sour milk cakes (made as above, but with sour milk and baking soda instead of baking powder), which are even better, and corn cakes and buckwheat cakes. The latter, of course, were the kind raised overnight in a bowl set near heat.

Now, then, the hunters are in the kitchen for breakfast (it's always eaten in the kitchen), and the pancakes are on the table. The next step marks the Pennsylvanian apart from most of the rest of humanity. The cook makes a "sausage gravy" by pouring off the fat in the pan in which the sausage was fried, adding some water, and boiling it for a while. The boiling loosens the particles of browned sausage which always stick to the pan, and produces a fine-flavored broth. This is put on the table, and a bit is poured over the pancakes on the diner's plate. He can then eat it as it is, flavored with the sausage gravy, or he can proceed to butter it and pour on syrup in addition to the gravy. That is a matter of personal choice.

I have built up an enduring friendship with a man in Philadelphia simply because I'm the only other human being he ever met in the city who doesn't laugh when he says he likes sausage or ham gravy on pancakes upstate style. The pan in which ham has been fried makes a particularly fine gravy for this purpose, although milk is often used instead of water. Down south the gravy made by boiling water in the pan where the ham was fried is called "red gravy" (which is often its color, depending upon the ham), but they do not use it on pancakes.

* * *

Now we are come to something that only a Pennsylvania German could understand and appreciate. I refer to pudding meat—or, simply puddin'. For outlanders who never heard of it, I try to describe it as a sort of meat sauce which we spread on pancakes, but that isn't an adequate description. In the stores, it is sold as "liver ring," and it is true that this commercial product does have a lot of liver in it. True puddin' also contains liver, but it is made of all the scraps of meat at butchering time. Parts of the hog that otherwise would go to waste are cut up and boiled in a big iron kettle.

It is seasoned heavily while cooking with pepper. When the meat has boiled away from the bones, it is lifted out the kettle, put through a chopper, and then put in tin pans, stone crocks, casings, or even in bags, where it hardens. Its use from there on varies. Sliced, it makes a good and substantial sandwich to carry on a

winter's day afield, but its chief use in the section from which I came was as a spread on pancakes or molasses bread. Chunks of it are put in a pan and heated in the oven until they soften, the grease is poured off, and the puddin' is stirred up to make a hot sauce. Butter goes on the pancake, then molasses, and then puddin'. But up in Monroe, Carbon and Sullivan counties I found that they slice the puddin' and fry it to serve with hot cakes at breakfast. Up there, too, was the first place where I had seen the puddin' kept in cloth bags.

After the puddin' meat and the bones are removed from the big kettle at butchering time, a fine broth remains, rich in meaty particles. The economical Pennsylvania Germans wouldn't think of throwing this away, so they bring it to a boil and stir into it cornmeal or ground buckwheat, or a combination of both, to make their *ponhaws.* This is variously spelled, as *panhaus, pannhaus* and *ponhaws.* It is pronounced as though spelled "pawnhaus."

Actually, it amounts to a meat-enriched mush which is fried for breakfast, and usually eaten as it is, or with syrup. It is common through most of Pennsylvania, and wherever Pennsylvania Germans have settled, down in Maryland and on into the deeper south, while its close kin, Philadelphia scrapple, is popular in a wide radius around the city that gave it its name.

Ponhaws and any of the other warm breakfast foods combined with it makes an ideal morning meal for cold weather. Mahlon Slipp, the proprietor of a fishing-hunting camp at Princeton, Maine, told me with some amazement of the peculiarities of a party of Pennsylvania German anglers who visited his camp. It seems they brought their own *ponhaws* along, and insisted that Mrs. Slipp serve it each cold morning, which she did although she had never encountered the stuff before. I can easily understand the Pennsylvanians' ambition to insure hearty Pennsylvania food even in a Maine camp, because I have often wished I could have some puddin' or *ponhaws* when far away from home. I recall with abhorrence a camp in Wisconsin along the St. Croix River where I was served two soft-boiled eggs each morning for breakfast—and I don't like soft-boiled eggs. But a poached egg on *ponhaws* isn't at all bad.



* * *

I don't quite know how this piece turned so much upon foods, but since we are on the subject there are some other Pennsylvania specialties that should be mentioned, especially as they apply to the hunter-angler-camper. Take Lebanon bologna, for instance, which was developed around the city which gave it its name, as Philadelphia did to scrapple.

Lebanon bologna has considerable virtue as an aid to outdoor living, as I discovered nearly twenty years ago when I carried a six or seven-pound piece of it on a trip that kept me living outdoors for more than a month in tents. Lebanon is so well-seasoned that it keeps indefinitely without refrigeration, a fact much appreciated by campers. The same seasonings give a piece of good Lebanon a fine flavor, so that it can be eaten as it is. However, have you ever

tried it fried? We discovered that thick slices fried in butter or other fat have a delicious taste for either a sandwich or as part of a meal.

In somewhat the same class are ring bologna and summer sausage, but neither can be considered a strictly Pennsylvania product because I have encountered them wherever persons of German descent live. These two bolognas join Lebanon, however, as meat products which can be carried for a long time without fear of spoiling, and without any waste in weight, a matter of some importance when back-packing in camping. They are nearly always bought in bulk form, and Lebanon always should be, since it keeps better than it does when sliced. These are not to be compared with ordinary "cold cuts" which turn limp and tasteless almost as soon as they leave the refrigerator.

Then there are Pennsylvania German *snits* and dried sweet corn, of infinite value to a camper who wants a fruit and a vegetable without too much weight. The *snits*, of course, are dehydrated apple slices, and the dried sweet corn consists of kernels cut from the cob and dehydrated.

Both are available only at farmers' markets, or from individuals. They may occur elsewhere in the nation, but I have never encountered them outside Pennsylvania or immediately joining states. Another delicacy seldom seen in other regions is the smoked pork chop, which makes a good breakfast or dinner dish. There is something about its flavor that makes it appeal to anyone who must work outdoors or who spends time at field sports.

* * *

Perhaps no apology is needed for considering food as an essential part of outdoor living. It certainly is such, and I have the smug feeling that here in this state we know how to live better at the table, whether in camp or at home, than do residents of most of the nation. That does not apply only to the Pennsylvania German segment of the population, but to many others. I have watched hunters of Polish, Lithuanian or other Middle Europe descent haul out a chunk of cooked *kelbassa* (often called Polish sausage) and eat it with bread as the noontime lunch, and have envied them because I, too, like it boiled or fried. And I know that they probably will go home to a good dinner of *halupki* (sometimes *haluski*) which is ground meat wrapped in cabbage leaves and the whole thing simmered in a tomato sauce.

I have mentioned before the pleasure that can be derived from winding up a day outdoors along the lower Susquehanna with a chicken and waffle dinner at Accomac, and to it could be mentioned many like experiences. I can not reckon the number of times I have come in from the field, tired, cold, dirty and hungry, and have found in one of Pennsylvania's excellent inns the comfort that a hunter needs at the end of day.

There have been occasions when we hit a bad spot, where the food wasn't good, the service poor, and the atmosphere unfriendly; but I would say these were in the minor-



ity, and they have been forgotten in the warm glow that comes from remembering the other kind of place.

I won't mention any by name because this isn't a commercial plug, but I recollect many. There was the hotel at Analomink (now burned down) where the Swiss-French owner and his German wife knew exactly how to please the palate of the angler or hunter who stopped there, and where the entire tempo of the place was geared to fishing and hunting with meals at all kinds of hours accepted as a matter of fact. The bedrooms were about as bare and utilitarian as any I have ever seen, because they were used only to snatch a few hours sleep between dark and dawn when not outdoors, and the kitchen, dining room and bar downstairs were the center of all activity. When the owner sold out and retired there was considerable regret among many outdoorsmen, and now the place is gone entirely.

More than once, some innkeeper, who did not know us at all, would reopen his kitchen late at night to make a dinner for our hunting or fishing party, and it is such hospitality that a person remembers. And more likely than not, the proprietor would sit down and talk hunting and fishing with us while we ate. In fact, the best guide to strange country probably is the local innkeeper. He wants you as a customer, and he will go out of his way to be helpful in directing you to the best spots nearby for your sport.

I remember occasions when mishaps delayed our arrival at some inn where we were expected, and we got there in the small hours of the morning—only to find them ready and willing to make us warm and comfortable, to feed us, and welcome us. Then I remember another time when I arrived at night at the place where I stay in Fern Ridge, and couldn't get anybody awake for what seemed like hours in the cold November air. I hammered on the doors. I shouted. I threw pebbles against upstairs windows. The dogs joined me in the uproar, and some friends came from a nearby cabin to help make a racket. Only the accidental breaking of a windowpane, and the crash of glass inside the inn, aroused the tired owner who was sleeping the sleep of the exhausted after spending a day himself out hunting.

. . . *The End*

STOLEN GUN

12 Gauge Ithaca pump shotgun, model 37-R, 26 inch barrel. Serial number 31397-R. Gun was fitted with an adjustable stock pad. It was stolen from an auto in Strafford, Pennsylvania, on November 5, 1951. Information should be addressed to Charles F. Griffin, 52-B Hurley Court, Upper Darby, Pa.

IRATE FARMER OFFERS REWARD FOR ARREST OF DEER KILLER

The Game Commission is not alone in trying to check illegal game killings. Many an angry farmer has taken direct action against poachers. But the following recent item from the Blairsville (Indiana County) Dispatch relates a new indignation high. It reads:

"A reward of $25.00 was offered by Homer Williams today for information leading to the arrest of the party or parties who killed a large doe on his farm, probably on Sunday. The carcass was found in an open field in the rear of the Williams' home Monday forenoon. It is believed the party intended to carry away the deer but apparently was frightened away. A 30-30 rifle bullet killed the doe, an unusually large one."

Too Many Deer—In 1928

On October 20, 1928 the Isaak Walton League's regular monthly radio program featured a talk on the subject, "Why Pennsylvanians Must Shoot The Surplus Does." The speaker was Hon. Ross L. Leffler, president of the Pennsylvania Game Commission. His predictions concerning conditions to come were so amazingly accurate, and his management recommendations so sound that they are herewith presented in the following copy of this talk. Read it and see for yourself why the author's reputation as one of America's foremost authorities on wildlife conservation remains unchallenged 23 years later.

WE Pennsylvanians are justly proud of the pre-eminent position of our Commonwealth as a conservation State, and I assure you that this reputation is being jealously guarded by the Pennsylvania State Game Commission. At the beginning of the century we were a cut-over, shot-out state. Today our forests are growing and our game problem is not how to restore our deer, but how to reduce them. We have over 1,100,000 acres of state forest land, and in addition nearly 100,000 acres of land purchased by the Game Commission, and under their control, out of funds derived from the hunter's license fees. Our splendid system of Game Refuges strategically located over the state, precludes any possibility of there being too many deer killed in any one season, as many erroneously believe.

Bucks have been killed in Pennsylvania every year since 1907, that being the first year our "Buck Law" was in operation. This law was passed after most bitter opposition and only when it was clearly shown it would save human life. At first thought it would appear that this annual elimination of animals would, of itself, control the deer herd. Yet during the last two years the deer-kill has doubled—proof that deer increased rapidly even against considerable odds. The most serious natural enemies of deer, the gray wolf and the panther, were exterminated in Pennsylvania decades ago. The wild cat is the only natural enemy which exists now, and this animal is not abundant. The tendency for a species to produce many young so as to offset the mortality which constantly occurs, permits game to flourish; but when all natural enemies are removed, and this natural tendency toward over production continues, then a species will become so abundant that it eventually eliminates its own food supply and perishes unless preventive measures are adopted. Nature has her own drastic methods of restoring a proper balance.



HON. ROSS L. LEFFLER

In many sections pine, hemlock, rhododendron, and laurel, none of which is a customary food, have been eaten extensively. Deer do not nor-

mally eat coniferous trees, though they can subsist for a time upon them. A little laurel or rododendron mixed in with their usual food will do no harm, but a steady diet upon one of these plants produces fatal results. Dozens of deer which had eaten laurel, the only remaining low growth, were found dead along one stream in central Pennsylvania. Examination of stomachs showed that these animals had eaten nothing but laurel. 95% of the dead deer were last year's fawns. Destruction of pine, hemlock, and nut trees, has been so extensive in some sections that the Department of Forests and Waters, and the Game Commission (who plants food and nut trees) has definitely stopped the planting of seedlings because these seedlings are destroyed as rapidly as they are planted.

Disease among deer has appeared which is thought by those qualified to know, to be the direct result of over-crowding. Cases of disease very similar to hemorrhagic septicemia have been found; malformed specimens have been examined in which bones were misshapen as a result of insufficiency of proper food during early life. Starvation is nearly always accompanied by some pathological complication. Other diseases which may occur at any time, or which may now be gaining a foothold in some sections, are feared.

Damage to orchards, grain fields and gardens, has been so constant and extensive in some sections that it is evident that the animals are not finding enough natural food in the forests. That deer and other animals come to have a fondness for certain delicate foods, is well known, and a certain amount of damage has been done in sections where natural food is plentiful, in other sections, however, the natural food is gone, and the orchards and crops are suffering correspondingly.

The natural tendency of deer to increase locally, and to remain in a body in one section, makes the problem more complex. Animals which stay in one section and multiply until the food supply is inadequate, cannot leave for new areas when they are in a weakened condition, particularly when deep snows cover the ground. They eat the last of the food and die. Many does are so weak that they desert their fawns as soon as they are born.

The fact that as forests become larger the undergrowth naturally disappears as a result of shade, makes the deer food problem additionally acute. The disappearance of the Chestnut, as a result of the blight, has added a difficulty. With such an enormous deer herd as is present now in Pennsylvania, it is not practicable to feed all of them artificially. The deer-food problem is more serious because it is destined to affect the vital problems of other game. Already deer have entirely cleaned out grouse cover in some sections, exposing these birds to their enemies, and driving them out. Food-bearing plants which should furnish berries, seeds and nuts for squirrels, rabbits, bears, and game birds are eaten away by the deer.

The Board has been aware of the over-abundance of deer in certain counties for years, and has employed various measures in attempting to solve the problem. They have opened certain districts to special doe seasons during the past five years; the Legislature has given the farmer or their agents the privilege of shooting deer which were doing damage and permitting them to keep the meat for food; the Board has built elaborate and expensive traps in an unsuccessful attempt to capture deer which were to be restocked in other sections. We have employed men to shoot the surplus deer—but all of these methods have failed to reduce materially the number of animals.

The Game Commission has con-

sidered innumerable suggestions concerning the handling of this problem. We believe that we have, to date, honestly tried all legally possible, reasonable, and safe methods of reducing the deer herd, other than the plan recently adopted. This is not the last time "does" will have to be killed, as the special season will have to be repeated at intervals.



"A steady diet of laurel or rhododendron, in some sections the only remaining available growth, usually produces fatal results."

The Board Members fully realize their responsibility to the sportsmen of the State. They have studied the problem from every angle and over a long period of time, and with their facility for gathering information from a state-wide standpoint, and to a more definite degree than is possible for any individual or organization of sportsmen, they feel themselves fully competent to decide the best method of handling this very important and admittedly many-sided problem, and willingly assume the responsibility for the effect of their action on the future deer hunting in the State, which will without doubt be infinitely better for having had this special season.

At the time of the withdrawal of the "Deer Damage" Bill at the 1927 session of the Legislature, a solemn promise was made to the Game Commission of the House of Representatives, by the Board that some effective measure would be adopted to relieve the damage done by deer. We are keeping that promise, and the land owners should cooperate to the fullest extent, as they are in the best possible position to see the damage, and to understand the evils of improper breeding and unbalanced sexes. Some farmers are strong for reducing the number of does, while others are protesting. There is no difference of opinion, however, among the farmers as to how to produce better dairy stock through selection and elimination of scrubs, as they are

very careful to select proper breeding stock.

We are frequently asked why it was necessary to charge an extra fee of $2.00, when we desired the animals removed. The Board has no jurisdiction over that at all, as a legal decision dated July 31, 1928, states that the Board of Game Commissioners cannot declare any sort of season for deer without visible antlers, except as a special season with a fee of $2.00 in addition to the Resident Hunter's License. The same decision states that non-resident hunters cannot under any conditions secure a license for the killing of a deer without visible antlers. This is the law, and the Board has no authority to change it, as section No. 511 of the Game Code is quite clear on this point. The Board has decided to issue the special licenses in each county, in proportion of 8 special licenses to every legal buck killed during the 1927 hunting season. Experience during the past five years in issuing special licenses has shown that it requires six licenses to kill one deer without visible antlers, even in the centers of the greatest abundance of these animals. It stands to reason that in view of their protection since 1907, female deer have become exceedingly abundant, so that drastic measures are necessary. The Board feels that the present method of handling the special season will correct over-crowding problems, and will bring about a proper balance of the sexes.

Unless the sportsmen cooperate in removing a large number of does this season it can be but a short time until deer in some sections will cease to be game. The handling of this problem demands that sportsmen forget sentimental notions about a female deer and approach the matter of saving their game for future years in a matter-of-fact and businesslike way. The hunters will be very likely to learn, that the does will soon become as wary as the bucks, while the venison from them is certainly superior to that of an old buck at the close of the rutting season. The sentiment against killing mother deer, has no more foundation in fact than that of killing the potential father, while the hygenic considerations of eating a pregnant doe, need cause no more worry than eating a pin-feathered broiler. Not until months later would anyone but an expert be able to determine whether a doe was pregnant or not. The argument that in killing a doe, two fawns in addition are also destroyed, one of them probably a buck, should have little weight against allowing a young buck to reach the breeding age, and insure several does having fawns the next year. Our deer and other game demand more than protection; they require efficient, intelligent and scientific game management, with sentiment eliminated, if the sport is to continue.

Many states regularly kill does in December. We hear a lot of maudlin sentimentality about "Mother deer." That is an insult to the mothers of America, the very idea of even mentioning our loved, honored and respected mothers in the same breath with the beasts of the forests. When you go to market to purchase a choice steak, you do not look into the butcher's face with moisture in your eyes and say: "Mister are you sure you are not selling me a steak from the mother of our cows." How long would our beef, sheep and hogs last if we killed only the males of the species? When you shoot a bunny you don't care whether it is a mamma or papa that is slain, nor do bear hunters determine the sex before they shoot.

The Game Commission does not claim there are numerically too many deer in every county, nor is there excessive damage to crops, orchards or forests, nor is death from starvation common to every district, but we do claim that after 21 years of con-

tinuous protection to does and killing bucks only, the sex ratio is unbalanced in every county where deer are found.

In western Monroe county, for example, where they claim they have the proper ratio, an expert investigator counted in one evening 71 deer, of which 45 were does, 17 fawns, 3 bucks, and 6 indeterminate for sex and age. Four does had twin fawns, 9 had 1 fawn each, and 32 does had no fawns with them. One of the bucks was a fine big fellow with a splendid rack of horns, one was a 2½-year-old buck with small two-point horns, and the other a yearling spike buck. This gives one good breeding buck to 71 deer, one that may breed but should not, and one entirely under breeding age. The same sex ratio holds good from one end of the State to the other. How long would you farmers permit such conditions to prevail upon your farms?

In closing I wish to thank the officers and members of the Pittsburgh Chapter of the Izaak Walton League, who have made this talk possible, and to insure them and all sportsmen listening in that the Pennsylvania State Game Commission at all times welcomes suggestions for the promotion of better sports, and to bring about the very closest relationship between the sportsmen and their Game Commission, as we are working solely for your benefit. How splendidly it will be if the sportsmen of this Commonwealth bear in mind the fact that the Board of Game Commissioners has succeeded, in spite of difficult years, in spite of constant arguments, criticism, and threat, in making Pennsylvania a great game state, and have succeeded in giving every one of our 700,000 hunters reasonable assurance that when he goes into the autumn woods today, he will return with a good bag of game. If our sportsmen have even meagre knowledge of the difficulties of game management, and of the tremendous value of their cooperation in the solving of a problem so vital as the one they are facing now, they will get back of this year's deer season, put it through with real zest, and will live to see the day when they may point with pride to the time when they themselves saved their deer herd from extermination.

. . . *The End*



PGC Photo

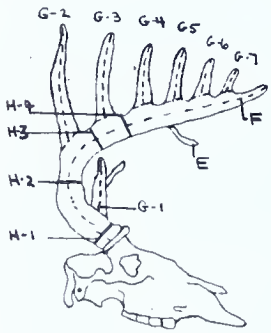
OFFICIAL SCORING SYSTEM FOR NORTH AMERICAN BIG GAME TROPHIES

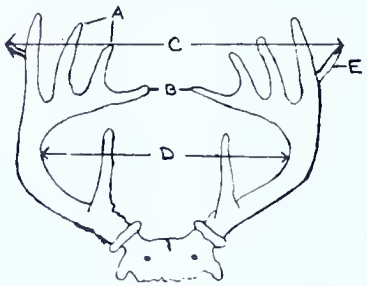
Records of North American Big Game and North American Big Game Competition

BOONE AND CROCKETT CLUB

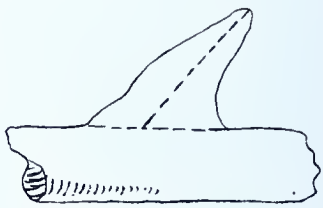
% Am. Museum of Natural History
Central Park West at 79th Street
New York 24, New York

WHITETAIL and COUES DEER





KIND OF DEER _____



DETAIL OF POINT MEASUREMENT

SEE OTHER SIDE FOR INSTRUCTIONS	Supplementary Data R.	Supplementary Data L.	Column 1 Spread Credit	Column 2 Right Antler	Column 3 Left Antler	Column 4 Difference
A. Number of Points on Each Antler						
B. Tip to Tip Spread						
C. Greatest Spread						
D. Inside Spread of MAIN BEAMS (Spread credit may equal but not exceed length of longer antler)						
IF Inside Spread of Main Beams exceeds longer antler length, enter difference						
E. Total of Lengths of all Abnormal Points						
F. Length of Main Beam						
G-1. Length of First Point, if present						
G-2. Length of Second Point						
G-3. Length of Third Point						
G-4. Length of Fourth Point, if present						
G-5. Length of Fifth Point, if present						
G-6. Length of Sixth Point, if present						
G-7. Length of Seventh Point, if present						
H-1. Circumference at Smallest Place Between Burr and First Point						
H-2. Circumference at Smallest Place Between First and Second Points						
H-3. Circumference at Smallest Place Between Second and Third Points						
H-4. Circumference at Smallest Place between Third and Fourth Points or half way between Third Point and Beam Tip if Fourth Point is missing						
TOTALS						

	Column 1	Exact locality where killed
ADD	Column 2	Date killed By whom killed
	Column 3	Present owner
	Total	Address
SUBTRACT	Column 4	Guide's Name and Address
FINAL SCORE		Remarks: (Mention any abnormalities)

A copy of the official scoring sheet furnished by the Boone and Crockett Club for scoring whitetail and Coue's deer. Other forms are available for all North American big game species. Spaces are provided for entering various measurements, and instructions for computing your score are found on the reverse side. Trophies are scored on symmetry and freedom from "freak" features as well as on size.

Is Your Trophy A Record Head?

ARE you one of the favored few who has brought to bag an exceptionally large bear or deer? If so, the specifications will be welcomed by several organizations who tabulate such information. In addition, you will probably be eligible for awards in the BOONE AND CROCKETT CLUB'S big game competitions. To be eligible for this contest it is not necessary that the trophy be taken during the current year. Trophies taken during any year can be entered, provided they are not listed in North American Big Game, previously registered with the committee awards, or have not been entered in any of the four previous competitions. The trophy must have been taken in fair chase. Tusks, skulls, horns and antlers of animals killed by accident, pick-ups or of unknown methods are not eligible for a medal, but may qualify for a Certificate of Merit. Entries are scored on an official scoring sheet; the one for whitetail deer is shown on the opposite page. Antlered trophies are scored by adding measurements such as length of beam, spread, length of points, etc. and eliminating as nearly as possible all "freak" features. For further information write to Mrs. Grancel Fitz, Secretary, 5 Tudor City Place, New York City 17, New York.

The Pennsylvania Game Commission is also interested in the specifications of exceptional specimens of any native game, particularly big game. Please give the length of beam, spread, number of points, girth above burr, etc. of antlered trophies, and length of skull of bears. Hog-dressed weight, live weight (when known), location of kill and any other information of interest should be included.



Pennsylvania's Wildlife Conservation History



Chapter XIII

THE BOUNTIFUL BOUNTY SYSTEM

FOR more than two and one-half centuries, bounties have been paid in Pennsylvania on certain kinds of wildlife which were considered obnoxious. This provides a dark chapter in the handling of wildlife. Without doubt, many animals were killed needlessly and bounties paid for them although they were more beneficial than harmful. Frauds were perpetrated in collecting bounties, sometimes even with the collusion of the county and other officials charged with handling the money. The Game Commission today still has a very real bounty problem, although the trend is toward payment on fewer and fewer species.

The first bounty payments were made on species that were injurious to the early settlers and farmers, their crops and livestock. Things were difficult enough for them without having wolves kill their sheep and cattle, foxes eat their fowl, panthers dining on whatever they could slaughter, hordes of squirrels raiding cornfields and crows pulling up young corn. The modern conception of a predator is one that preys principally on wildlife.

As noted before, the first "game law" Pennsylvania ever had was a bounty on wolves set in 1683. Bounties were paid on wolves only until 1724 when red foxes and crows were added to the list. Slain predators had to be taken before a justice of the peace, who issued a payment order on the county treasurer. The amount varied from 15 to 25 shillings on wolves (payment, naturally, was in English currency until after the Revolution; first payment in dollars was made in 1802), two shillings for each adult red fox, one shilling for each whelp, and three pence per head for crows.

Red and gray squirrels were added to the predators in 1749 for a reason which involves an almost forgotten bit of natural history. Gray squirrels are migratory to a certain extent. That is, when food gets scarce in a section, they are likely to migrate en masse to another region. That's what happened in that period. Food became scarce in the coastal states and the squirrels started traveling west, sometimes by the hundreds of thousands. They swam across the rivers, giving rise to a false legend that they would pick out a chip of wood when faced by a broad stream like the Susquehanna, get on it, hoist their tail for a sail and cross the stream. Actually, they swam over and thousands perished.

When such a horde hit a cornfield, the year's crop would be cleaned out in a little while. The settlers warred on them. Although its accuracy seems doubtful, a history of Lancaster county reports that 840,000 squirrels were slaughtered in 1749 for the three pence per head bounty and that laborers became scarce because it was more profitable to hunt squirrels than to work at other employment.

In 1802, eight dollars was paid for an adult wolf, $2.50 for a pup. Panthers were added in 1807 at $8 a head. These big cats—the cougar, puma or mountain lion of the west today—found the sheep and cattle of the settlers pushing into the mountain country much easier prey than deer (already getting scarcer) and other wild animals.

The wolf and panther bounty went up steadily. It was $12 for each adult by 1819 and hit $25 by 1840 in some counties. Wildcats were added at $1 a head in 1819—and the first evidence of efforts to curtail fraud noted in the law which provided penalties of $16 to $100 for rearing pups or kittens to maturity to increase the bounty value.

Even the mink was a predator in Bedford County in 1841 and worth 25 cents at the treasurer's office.

About the same year, however, a number of counties began to repeal their bounty laws on wolves, foxes and wildcats.

Pennsylvania's famous—or infamous—"Scalp Act" was passed in 1885. It is interesting today chiefly because it first made mention of controlling predators for the protection of game, and because of the useless slaughter and frauds that followed its passage. Bounties were provided as follows: wildcat, $2; red or gray fox, $1; mink, 50 cents; weasel, 50 cents; each hawk, 50 cents; and 50 cents for each kind of owl except the Arcadian, screech or barn owls.

The Scalp Act was repealed in 1887, ostensibly because the wide-spread slaughter of all hawks and most owls was supposed to have resulted in an overwhelming increase in rats and mice which "wrought untold havoc throughout the state." Actually one of the determining factors inducing repeal was the many fraudulent claims for bounties made under that law. Nevertheless, it is reported that 180,000 hawks and owls were killed in that two-year period, a rather shameful record of unthinking slaughter.

Wolves, wildcats, foxes and mink were the only predators worth bounties in 1889, and, then, in 1897 the first act in the era of the Game Commission provided for bounties on wildcats (two dollars), foxes (one dollar) and mink (fifty cents). These sums were doubled in 1907.

A new bounty law in 1913 on wildcats, foxes, weasels, goshawks, sharp-shinned hawks and great horned owls tried to guard against fraud. The entire pelt of the animal or carcass of the bird had to be taken before an officer of the Commonwealth who had authority to administer oaths. Upon making affidavit, the officer, in the presence of at least one elector of the county where the claim was made, cut off the ears of the animal or pelt and split the skin from ears to the end of the nose. The heads of birds were cut off and burned. The State reimbursed the county treasurer for all bounty claims paid out.

That didn't prevent dishonesty. Through collusion between claimants, justices of the peace and county commissioners, widespread wilful cases of raud were common. In some instances, bounties were paid on heaps of feathers and fur, unrecognizable as any definite bird or animal. Weasel skins could be bought for eight cents each in Canada—and they were worth two dollars bounty here. You can guess what happened!

This brought about a quick repeal of the 1913 act and the law that followed in 1915 formed the basis for the system used today in Pennsylvania. The Game Commission was given more authority in bounty cases. Half the new resident license income was to be available for claims if needed, although it never was. Only game protectors could split the face of an animal's skin and forward the affidavit to the Commission at Harrisburg; all other officers had to forward both affidavit *and* pelt to the Commission offices. Claims were paid by the State treasurer on vouchers issued by the Game Commission.

Payments were too slow under this system and in 1919 the claims were paid directly from the office of the Game Commission, as at present. The same year, all officials were required to send pelts and affidavits to Harrisburg where Commission employees split the face and returned the pelt and check to the claimant.

The mink was removed from the bounty list and put on the protected fur-bearers' list in 1921. The red fox was taken off temporarily in 1923.

By 1937, the Commission had wide discretionary powers to fix bounty payments "whenever, in their opinion, it is desirable or necessary for the better protection of game." It had to give advance notices at least 60 days before any changes in The Pennsyl-

(Continued on page 35)

Lycoming County Largest in the State

Sixteenth In a Series

NOTE: This center sheet can be removed, if desired, without damaging the magazine, by loosening the two center staples.

LYCOMING County, formed from a part of Northumberland County, embraced such a huge area that in the next 50 years a dozen new counties were formed from it.

Land Area

The county contains 782,528 acres, of which 555,844 acres are forested. There are 201,701 publicly-owned acres in the county, of which 37,193.3 acres are in State Game Lands.

Topography

The southern third of the county as well as the larger valleys consist chiefly of rich agricultural lands. The remainder is rugged, mountainous country. The principal streams draining the area are the West Branch of the Susquehanna, Pine Creek, Little Pine Creek, Lycoming Creek, Loyalsock Creek and Muncy Creek.

Transportation

Railroad transportation is furnished by the Pennsylvania and the Reading railroads. The Susquehanna Trail (U. S. Route 220) and other important routes traverse the county.

District Game Protectors

Michael Evancho, Box 43 (117 Oak Street) Jersey Shore, has jurisdiction over Brown, McHenry, Cummings, Mifflin, Anthony, Watson, Porter, Piatt, Woodward, Nippenose, Limestone, and Bastress townships.

Robert L. Sinsabaugh, English Center, has jurisdiction over Pine, Jackson and Cogan House townships.

Paul Ranck, 1207 Baldwin Street, Williamsport, has jurisdiction over Lycoming, Hepburn, Lewis, Eldred, Loyalsock, Old Lycoming, Fairfield, Armstrong and Susquehanna townships.

Levi R. Whippo, Proctor Star Route, Williamsport, has jurisdiction over McNett, McIntyre, Cascade, Gamble, Plunkett's Creek, Upper Fairfield, and Mill Creek townships.

Raymond H. Morningstar, 253 Montgomery Street, Montgomery, has jurisdiction over Shrewsbury, Wolf, Penn, Muncy, Muncy Creek, Franklin, Moreland and Jordan townships.

Fish Warden

C. A. Bidelspacher, 767 W. 4th Street, Williamsport.

Agriculture

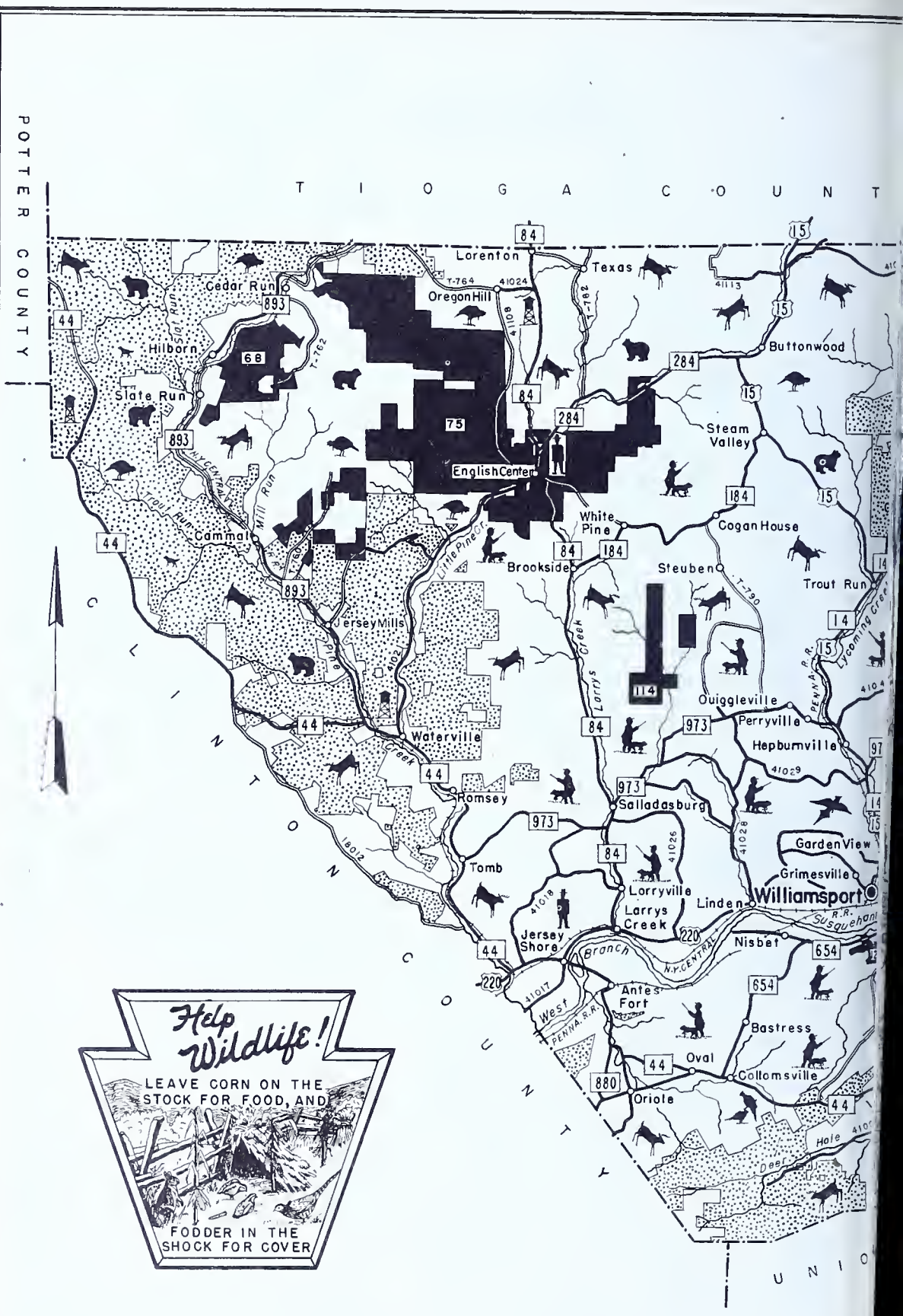
The excellent farm land in the Susquehanna, Nippenose, and Muncy valleys contribute greatly to the county's agricultural produce. Chief farm products are tobacco, butter, grapes and grain.

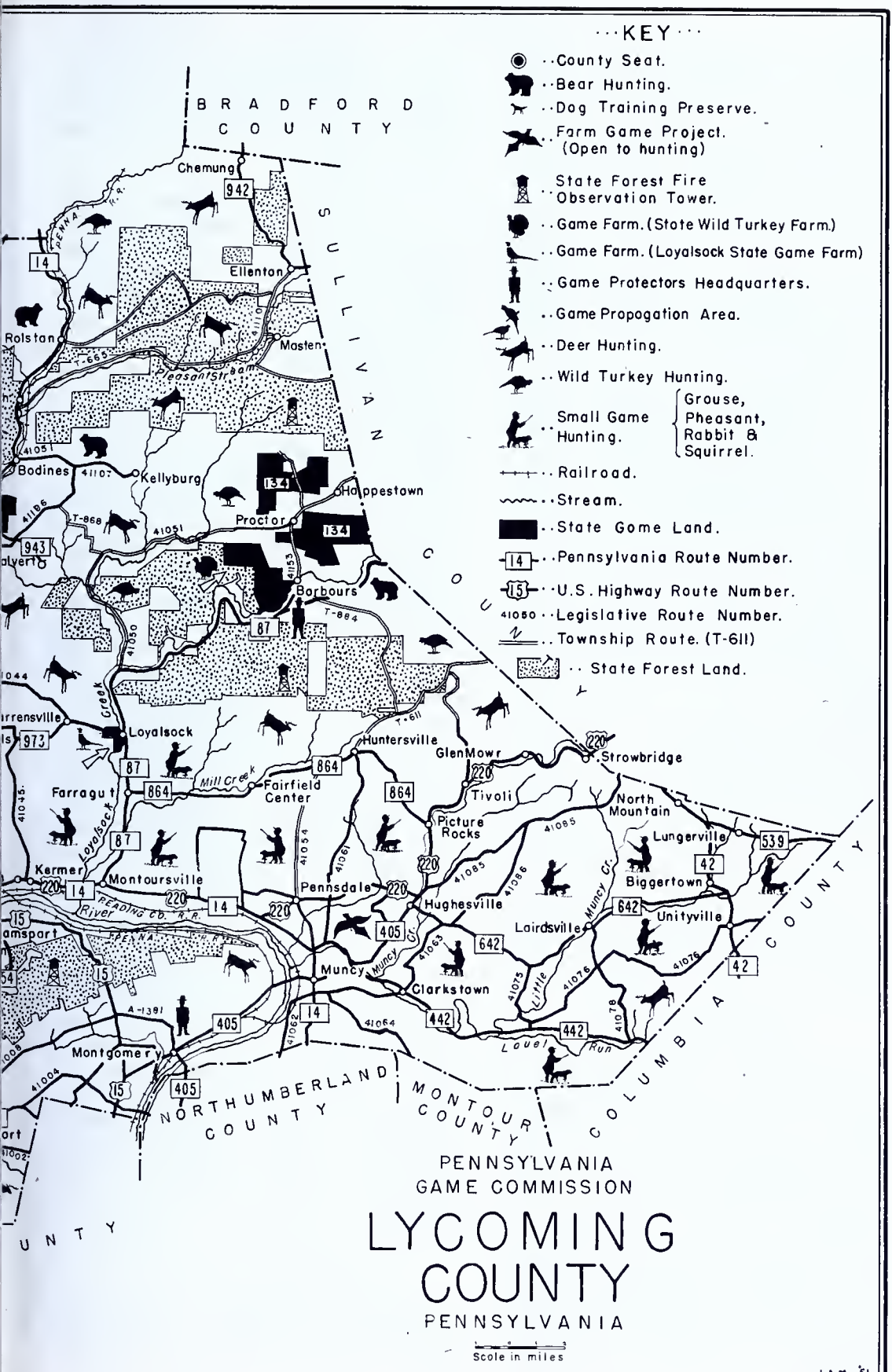
Industry

The principal classes of industry are metals and metal products, leather and rubber goods, textiles, lumber and its remanufacture, paper and printing. Among its chief products are sole leather, furniture, silk and rayon goods, machinery and parts, aircraft and parts, boilers, pumps, radio tubes and wire and wire products.

Historic

The county was reconnoitered by the French in 1756, at the beginning of the French and Indian War. The


POTTER COUNTY
T I O G A C O U N T
C L I N T O N C O U N T Y
U N I O
Lorenton
Texas
Cedar Run
Oregon Hill
Hilborn
Slate Run
Buttonwood
Steam Valley
English Center
White Pine
Cogan House
Cammal
Brookside
Steuben
Trout Run
Jersey Mills
Waterville
Ouiggleville
Perryville
Hepburnville
Romsey
Salladasburg
Garden View
Tomb
Grimesville
Williamsport
Lorryville
Larrys Creek
Linden
Jersey Shore
Nisbet
Antes Fort
Bastress
Oval
Collomsville
Oriole
Hale
Deer
Trout Run
Mill Run
Little Pine Cr.
Larrys Creek
Lycoming Creek
Susquehanna R.R.
N.Y. CENTRAL
PENNA. R.R.
West Branch
Help Wildlife!
LEAVE CORN ON THE STOCK FOR FOOD, AND
FODDER IN THE SHOCK FOR COVER


···KEY···
··County Seat.
··Bear Hunting.
··Dog Training Preserve.
··Farm Game Project. (Open to hunting)
··State Forest Fire Observation Tower.
··Game Farm. (State Wild Turkey Farm.)
··Game Farm. (Loyalsock State Game Farm)
··Game Protectors Headquarters.
··Game Propogation Area.
··Deer Hunting.
··Wild Turkey Hunting.
·· Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
··Railroad.
··Stream.
··State Game Land.
14 ··Pennsylvania Route Number.
15 ··U.S. Highway Route Number.
41050 ··Legislative Route Number.
··Township Route. (T-611)
·· State Forest Land.
BRADFORD COUNTY
SULLIVAN COUNTY
COLUMBIA COUNTY
NORTHUMBERLAND COUNTY
MONTOUR COUNTY
Chemung
Ellenton
Masten
Rolston
Bodines
Kellyburg
Hoppestown
Proctor
Barbours
Loyalsock
Huntersville
GlenMowr
Strowbridge
Farragut
Fairfield Center
Tivoli
North Mountain
Picture Rocks
Lungerville
Kermer
Montoursville
Pennsdale
Hughesville
Biggertown
Laird sville
Unityville
Muncy
Clarkstown
Montgomery
Pleasant Stream
Mill Creek
Loyalsock Creek
Muncy Cr.
Little Muncy Cr.
Lovel Run
Reading Co. R.R.
PENNA. R.R.
PENNSYLVANIA GAME COMMISSION
LYCOMING COUNTY
PENNSYLVANIA
Scale in miles
L.A.M. '51

influence of the famous Madam Moutour, daughter of a French Canadian and wife of an Indian, was often exercised in the service of the Proprietors. It was not until 1768 that the treaty of Fort Stanwix allowed settlement of the region, although fearless settlers had already moved into the disputed territory between the Lycoming and Pine Creeks and set up their own vigilante government. These were known as the "Fair Play Men."

Forts were built near the mouth of Pine Creek by Colonel Henry Antes in Nippenose Bottom, and by Colonel Thomas Hartley at Muncy between 1776 and 1778. In the latter year, after a warning by a friendly Indian of a threatened attack, the settlers around these forts were ordered to evacuate and escape to Fort Augusta. This mass movement of hundreds of men, women and children down the Susquehanna has always been referred to as the "Great Runaway."

The logging industry brought early fame and prosperity to Lycoming County. Williamsport was at one time considered the center of the industry in the United States. The business men of the city saved it from economic disaster as the lumber industry declined by promoting a diversity of new manufacturing interests. Agriculture and manufacturing now employ most of the county's workers.

Recreation—Hunting

Certain parts of southern Lycoming county enjoy exceptionally good ringneck hunting and in the more northerly sections black squirrels and snowshoe rabbits are found. Both deer and black bears are plentiful in practically all the mountainous districts of the county.

Game Lands Number 68, near Slate Run comprises 3,034 acres; Number 75, near English Center, comprises 25,291 acres; Number 114, near Whitepine, comprises 2,311 acres; a part of Number 126, near Duboistown, comprises 592 acres; Number 133, near Trout Run, comprises 2,009 acres; Number 134, near Proctor, comprises 3,956.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stock waters) include: Little Bear Creek, brook trout, Loyalsockville, 4 mi.; Black Hole Creek, brook trout, Montgomery, 4 mi.; Blockhouse Run, brown trout, English Center, 8 mi.; English Run, brook trout, English Center, 3 mi.; Fourth Gap Run, brook trout, Elmport, 4 mi.; Grays Run, brown trout, Fields Station, 5 mi.; Hogland Run, brook trout, Cogan Station, 5 mi.; Larry's Creek, brown trout, Salladasburg, 5 mi.; Loyalsock Creek, brown and rainbow trout, Montoursville, 16 mi.; Lycoming Creek, brown and rainbow trout, Cogan Station, 17 mi.; West Mill Creek, brook trout, Montoursville, 5 mi.; Muncy Creek, brown and rainbow trout, Muncy, 10 mi.; Little Muncy Creek, brook trout, Lairdsville, 5 mi.; Little Pine Creek, brown and rainbow trout, Waterville, 15 mi.; Pleasant Stream, brown trout, Marsh Hill Junction, 7 mi.; Plunketts Creek, brook trout, Barbour, 3 mi.; Roaring Run, brown trout, Roaring Branch, 6 mi.; Rock Run, brook and rainbow trout, Ralston, 6 mi.; Slate Run, brown trout, Slate Run, 5 mi.; Trout Run, trib. Lycoming Creek, brook trout, Trout Run, 5 mi.; Trout Run, trib. Pine Creek, brook trout, Pump Station, 6 mi.; Wallis Run, brown trout, Loyalsockville, 8 mi.; White Deer Hole Creek, brown trout, Elimsport, 11 mi.; Loyalsock Creek, black bass, Montoursville, 6 mi.; Lycoming Creek, black bass, Williamsport, 7 mi.; Pine Creek, black bass, Waterville, 35 mi.

State Recreational Areas

Upper Pine Bottom and Little Pine Picnic Areas furnish picnicing areas for the public in sylvan settings.

(Continued from page 30)

vania Game News or other sources of public information. From that date on, the Commission could control any species that became too numerous, and it could also remove bounties from those kinds that were becoming scarce to the point of extermination.

Although the list varies, the bounties are most commonly paid now only on gray foxes, weasels, goshawks and great horned owls. In 1945, due to the rapid increase of red foxes during the wartime period when they were little hunted or trapped, they were returned to the list with a price of $4 on each one. Due to their scarcity goshawks were removed from the bounty list in June 1951.

Since trapping often is closely associated with bounty payments, the changes in the laws affecting the men and boys who follow the traplines will be taken up here.

Tagging traps is a modern rule, but it also is an old one. An act passed in 1909 provided that all steel bear traps had to carry a metallic tag with the name of the owner. Bear pens and traps also had to be visited at least every 48 hours. The same act provided that all traps larger than muskrat traps when set had to be surrounded by a barrier of poles, logs or other material arranged to prevent human beings or domestic animals from being caught.

The first major trapping legislation was passed in 1921. This fur-bearing animal law listed mink, muskrat, opossum, otter, raccoon and skunk as protected fur-bearers. The open season for all except raccoon ran from November 1 to the end of February. Enforcement was placed under the Commission's jurisdiction. This was the law that removed the unhappy mink from the predator list. It also defined unlawful methods of taking protected fur-bearers, including poison, explosives, chemicals, the use of smoke, digging out dens or cutting down den trees. The fur-dealers were conscious of the new law, too,—it made it illegal to buy or sell, or ship out of the State, any fur-bearer taken illegally.

Possession of a green pelt or carcass, except during the open season and for 15 days thereafter, was considered *prima facie* evidence of a violation.

The raccoon was declared a game animal in 1933, and subject thereafter to hunting and trapping regulations. By 1923 all traps had to be marked with a metallic tag or plate, giving the name and address of the owner, and all traps had to be visited at least every 36 hours. By 1931, all deadfalls as well as traps had to be tagged. A special legislative session of 1942 authorized the use of non-metallic trap tags for the duration of the war and six months thereafter, due to the metal shortage.

Various laws helped make trapping more humane, protected the trapper and gave the fur-bearers a chance. Steel traps with teeth on the jaws were prohibited in 1931. The same act forebade deadfalls with an opening measuring more than 6½ inches in height and the same in width. All snares were prohibited (but by 1939 snares without springpoles were allowed for taking predators).

It was unlawful in 1921 to disturb traps or take animals from the traps of another unless specifically authorized by the owner; but this was changed in 1936 to make a person guilty of larceny for disturbing traps or taking animals from them without permission. Trap stealing continues a serious problem throughout the state.

It became unlawful in 1937 to set steel traps closer than five feet from any den or hole, but this was amended in 1939 to allow underwater sets anywhere. When skunks became too numerous, a regulation was passed in 1940 removing them temporarily from the protected list.

. . . *To Be Continued*

When You Buy Furs

By Dr. Leon A. Hausman*

WHAT should one look for in buying a fur garment, or fur trimmings? Probably appearance comes first, then wearing quality, then price.

One might write a book on the matter of the appearance of furs—so much depends on the color desired, or the texture, depth, sheen, and the like. One must be guided by one's desires, and there is no right or wrong in this matter.

But the matter of durability of the fur is another story. Here it is necessary—or at least useful—to know ex-

* Professor of Zoology and Natural History, New Jersey College for Women.

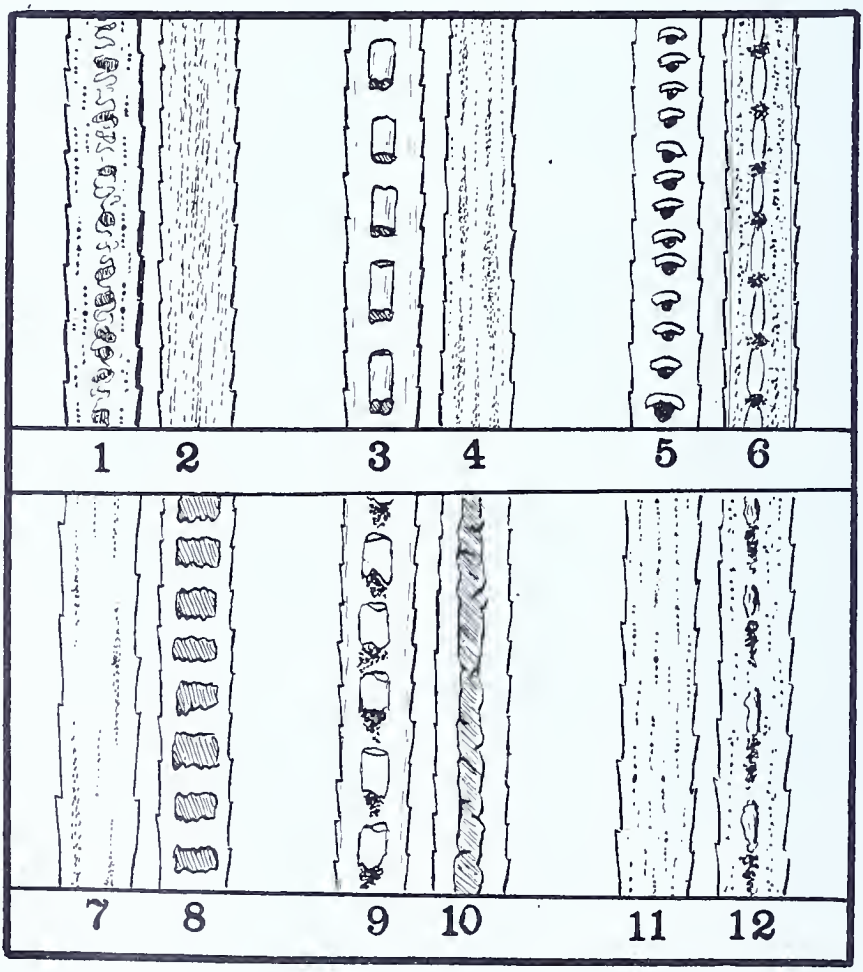


PLATE I. Hair shafts under the microscope: 1. Guard hair of Muskrat, midway in hair shaft; 2. Fur-hair of Muskrat, near tip; 3. Fur-hair of Muskrat, just above level of skin; 4. Fur-hair of Muskrat, near tip of hair shaft; 5. Short-Tailed Shrew, near tip; 6. Black Bear, midway in shaft; 7. Brown Bat; 8. Sewellel; 9. Cottontail Rabbit; 10. Polar Bear; 11 Otter; 12. Nutria, all midway of the hair shaft.

actly what fur one is about to purchase; not what trade-name it bears, but from what animal did the fur come? One might suppose that one was purchasing a very durable seal garment or ornament, because the name applied contained the term "seal," only to discover afterwards that the fur was not from that animal. For example there is no animal known to science as the Hudson Seal; this name was usually applied to Muskrat fur, which after certain modification was given this trade name. And Muskrat fur (see Table) is less durable than true fur seal.

Formerly all sorts of deceptive names were applied to furs, but today the purchaser is protected from all but the most unscrupulous merchants by regulations formulated in June of 1938 by the Federal Trade Commission in its Trade Practice Rules for the Fur Industry. These rules state it to be unfair practice to misname any fur, or to use a name in such an adroit way as to mislead the purchaser. If any given fur is modified to look like something else, and renamed, the name must indicate the nature of the modification, and mention the name of the correct animal-source of the fur. As an example: muskrat, treated to resemble seal, must be designated as seal-dyed muskrat. Other examples are: Mink-dyed marmot (marmot is ordinarily the woodchuck), Black-dyed fox, Sitka-dyed fox. Seal-musquash (musquash is the muskrat), Stone-marten opossum, Beaver-coney (coney is rabbit), Nutria-coney (nutria is the Coypu Rat), etc.

One might ask, why is not muskrat (to take one example) as durable as seal, or otter, or any other fur? It certainly is less expensive. The reason, as a rule, for one fur's superior durability over another fur's is to be seen in the structure of the individual hairs making up the fur. In general it may be said that the larger the medulla (central core or "pith" of the hair-shaft), the less durable the fur. The medulla of the shaft is a loose aggregation of friable cells and cell-parts. See Plate I. Again, a clipped or sheared fur is less durable than one with all the natural ends of its hairs left intact. If a hair is clipped, its natural solid stiff protective end or cap is removed.

Some years ago the writer made tests of the wearing-quality of certain common furs and textile materials, using a machine to which he gave the name "Attritiometer," a machine measuring not the tensile strength of fibres, but their resistance to the two component factors of *wear*, alternate compression (bending of the fibres), and rubbing (attrition).

The hairs of furs are not strained longitudinally, except in a slight degree in abrasive wear, but are subjected to repeated pressing (compaction) which bends and squeezes the hairs, and to abrasive rubbing wear. The Attritiometer alternately compressed and rubbed a sample piece of fur. The elements performing this operation were driven by an electric motor so that the process could be kept up until the fur "went to pieces." The time when this "going-to-pieces" process began was determined by examination through the microscope of individual hairs from the fur sample from various places in the sample, and at different times. The results of a long study confirmed the statements given in the durability table below, but showed further, what effect clipping of the natural ends of the hairs of the furs, had on the durability of the furs. The results were striking! Hairs with natural tips were much more resistant than those without. In clipping, a friable end is produced at once, whereas, ordinarily such friability would have ensued only after a long time of ordinary wear. See Plate 2.

The table below gives the relative durability of some of the common furs of commerce (natural, unpro-

cessed furs). The Otter is scaled as 100.

Species	Durability
Beaver	90
Bear	94
Chinchilla	15
Ermine	25
(Any weasel which has white winter pekage)	
Fox	40
(As an example, fox clipped and dyed rated only as 20-25)	
Goat	15
Hare and rabbit	05 to 08
Kolinsky	25
Leopard	75
Marten (skunk)	70
Mink	70
Mink (dyed)	40
Mole (American species	07
Muskrat	45
Nutria (Coypu Rat)	25
(plucked)	
Otter, Sea, or Inland species	100
Opossum	37
(often very brittle)	
Rabbit (see Hare)	
Raccoon	65
Raccoon (dyed)	45-50
Sable (Russian)	60
Seal, Fur or Hair species	80
Squirrel, gray	20-30
Wolf	50
Wolverine	100

When price of a fur is under consideration, very little can be said except that prices vary with many factors in the market. These variations often have very little relationship to the durability of the fur, or indeed to anything but the capricious demands of style and what is, for the moment, fashionable. Thus the value of mink has risen and fallen in a curious way. When bluish-brown shades of mink were fashionable, these brought the higher prices; but with a demand for lighter, grayer-brown shades, with a slight bluish cast, came a decline in the value of the darker blue-brown.

There is not much one can do in purchasing a fur garment except to rely upon some well-known dealer, some thoroughly careful person or organization, whose word and whose labels can be received with confidence. But one can keep in mind the durability-table of furs, and remember that the less "treating" a fur has undergone, the more durable it will be. "More naturality and less artificiality," to modify a notion of Thoreau's. One can learn something about the name of the animal from which the fur came; one can find out if it is clipped or sheared. If one has a good microscope, a good deal can be told about the individual hairs in a fur garment—but one does not go around armed with a microscope!

In the following table are given some practical hints about choosing a fur garment or ornament. Even if you have only a bunny-bank-account, rather than a mink-account, still you will wish to secure the very best you can for what you have to spend. Here are some points to consider, regarding the texture, color, sheen, depth, etc., of furs:

1. Matching of the pelts

Be sure the various skins or pelts that went into the garment are carefully selected and sewed so as to blend together. They should be uniform in depth, texture, color, and show no seams (unless the garment has been designed to show the various skins to form a pattern).

2. Rub your hand over the fur

If it has been cheaply colored by hand the color will be on top only. Real color runs deeper.

3. Feel of the fur

A good fur feels clean, smooth, dry, not sticky, nor obviously coated.

4. Sheen of the fur

A good fur is lustrous, shining, not dull and lifeless.

5. Examine the wearing places

See if the fur on the edges of front openings and hems, edges of pockets, sleeves and cuffs, is deep, not cheap and thin.

6. Examine the arm-pits

See if the fur is good here, not patchy and skimpy. Poor quality garments are often made up with odd patchy, ill-matched pieces of fur here.

7. Look for the guard-hairs
These are the long, coarse over-hairs, which in certain furs, like fox, are left to form a deep protection. See that these guard-hairs are long and plentiful, especially on edges and places where the greatest wear will come.

8. Remember again what was said about the name of the fur. Reputable dealers will adhere to the rules! The last name of a fur tells what it really is: for example, Seal-dyed Rabbit is what the last name says.

A good many species of mammals furnish pelts that are used in the fur trade; the names listed in our table of durability are of those mammals most largely used. Some mammals, usually those not useful as sources of fur, are used in felting. Not all skins are made up into large garments—many are used for trimming. The ermine used in England for trimming of robes of royalty and nobility is called miniver.

Many mammals produce two sorts of hair (and some produce as many as eight!) The two most common hair groups are the soft under-hair, or fur, and the longer coarser, over-hair, sometimes called the guard-hair or the protective hair. These hairs vary greatly in their structure, and it is the structure of each individual hair-shaft, in a fur, which gives the fur its own distinctive characteristics.

It is interesting to notice in passing, that the United States produces more raw furs (by value of the skins) than any other country. However, garment manufacturers are still dependent upon foreign sources for roughly one-half of their raw furs; though these figures are subject to fluctuations, following the effects of wars and rumors of wars! The United States yearly imports furs whose total value is in excess of eighty million dollars, and the total value of fur garments, trimmings, and the like, produced in our country is something in excess of 175 million dollars.

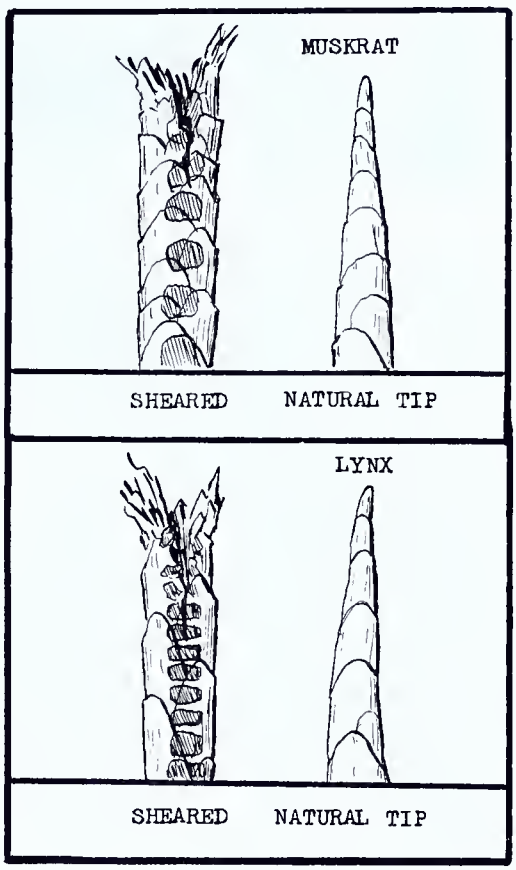


PLATE II

How can fur farmers increase their crop of furs? What is the relation of fur-farming to production of furs from the wild? These are questions not within the scope of this article—but these, and many other questions are fascinating ones for those interested in the subject of furs in general. The writer of this article is chiefly interested just now, at his time of life, in increasing the production of his *own* fur—the guard-hair on his head! The futility of it all is expressed by the old man whose wig was whipped off by the wind and sent twisting down the street. It was pursued and brought back by a newsboy.

"My boy," said the old gentleman, as he liberally rewarded the panting youngster, "You are the only genuine hair-restorer I ever saw."

. . . *The End*



Swim or Sink

RENOVO—Folks on the way to work one morning early in July were treated to a rare sight. At a point where Bakers Run meets the West Branch of the Susquehanna an old mother bear either decided to give her cubs an early morning bath or else was trying to teach them to swim. She would cuff them and push them into the water and as fast as she could get them in they would climb right back out. This domestic scene went on for about 30 minutes in full view of a dozen people off and on. More than one employee had to explain to his employer his reason for being late to work that morning. District Game Protector Charles F. Keiper, Renovo.

Stranger Here M'self

BOOTHWYN—In September we had an unusual occurrence when a Hooded Seal swam up the Delaware River. It was about 2000 miles from its usual habitat. When captured by Fred Ulmer, Curator of Mammals, at the Philadelphia Zoo, the seal was very ill, no doubt from the filthy water in the River. It is now under treatment at the Zoo and is doing very nicely. District Game Protector D. S. McPeek, Jr., Boothwyn.



Tabby Turns Over A New Leaf

SHIPPENVILLE—The house cat has gained a reputation for being one of our worst killers of small game birds and animals, but every now and then a conservation-minded member of the feline family makes an appearance. A farmer near Shippenville claims his cat fought a gray fox to a draw recently, and today I received a card from Mrs. Mortimer, who lives near Sligo, stating that her cat had killed a weasel and that she had the weasel to prove it.—District Game Protector Donald M. Schake, Knox.

Food Plots Reduce Damage Complaints

TIDIOUTE — The food plots planted on Game Lands answer a dual purpose. The grain and forage raised feeds the game and helps to eliminate damage to farmers' crops at least in the vicinity of the plots. In the past several years we have been increasing the planting in this District and the deer damage complaints have dropped off fifty per cent. District Game Protector George W. Burdick, Tidioute.

High Flying Beavers

ERIE—Apparently the Erie County beavers have heard of "flying saucers" for they are out to excel not only man with his new fangled ideas but nature as well. Long known for their engineering prowess, they have now taken to nesting in trees. While patrolling a length of a tributary to LeBoeuf Creek in lower Erie county on the first day of the recent beaver season, District Game Protector

Elmer Simpson, of Union City, called my attention to a beaver house complete with food supply built in a wide crotch of a large willow tree. The house was about six feet above the ground or normal water level of a beaver dam which occupied the site. It was obvious that one of these busy animals, confronted with the need for vacating his regular dwelling by spring floods, had selected the tree rather than move outside the flood line. Not all beavers can move



to a "second floor apartment" when the need arises, but this one certainly proved the exception.—PR Western Area Leader Raymond A. Shaver, Northwest Division Office, Titusville.

Buck Hunter's Dream

BERWICK—Recently, while in the company of Land Utilization Assistant Earl Lorah, I had the privilege of seeing six deer in one small field, all carrying a legal set of antlers in the velvet. District Game Protector Lewis Estep, Berwick.

Cat-Hater

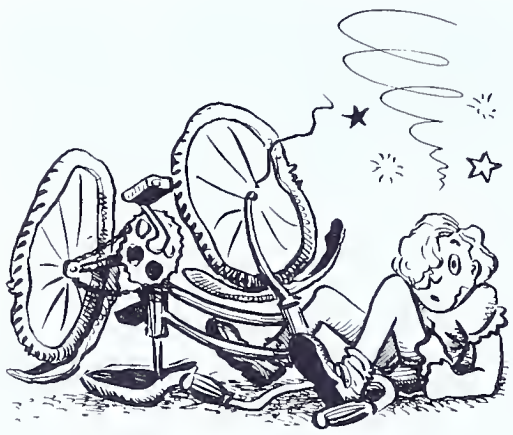
ELYSBURG—A farmer was telling me the other day that he saw a deer chase his cat down from the fields right up to the house. He said the cat had kittens and that she would go up in the field and catch mice for them. One evening he looked out and saw this deer chase the cat into the yard. He said he didn't care about the cat being chased but he did mind the deer eating his soybeans.—District Game Protector Clyde E. Laubach, Elysburg.

Coon Comeback

MERCER—In the past month I have had about twelve complaints from chicken raisers regarding damage done by coons. One man lost 160 full grown Red Rock chickens and 16 ducks in three nights. Raccoons are so plentiful they are living under rock piles, in woodchuck holes, back porches, under barns and wherever they can hide. It is rather amusing when one remembers that not so long ago it was claimed by various sportsmen that as soon as the timber disappeared in Pennsylvania the raccoon would disappear also. District Game Protector Samuel K. Weigel, Mercer.

Food For Foxes

MEADVILLE—This is good muskrat country, and the closed season has been a great help to them, for they seem to be everywhere. I got several reports of foxes working on them, though. A Mr. Allen, who works at the Western Game Farm and also traps, reports that he took 62 foxes during the month of June within sight of the Game Farm. There were 61 red foxes and 1 gray, and at one of the dens he counted the tails of over fifty muskrats that they had carried in to their young. District Game Protector George W. Keppler, Meadville.



No "Deer Crossing" Signs?

EDINBOROUGH—Tom Wolf, a farmer near Edinborough, told me of an unusual occurrence. One afternoon his daughter was riding her bicycle toward Edinborough when a deer jumped across the road, striking the bicycle, upsetting the girl and damaging the bicycle. The girl was considerably more frightened and surprised than hurt. District Game Protector Elmer D. Simpson, Union City.

Home Insulation For Foxes

UNION CITY—Mr. Manross, the caretaker for C. Caflish Estate, reported that foxes had raised a litter of pups under the summer cottage. The vixen removed about half the asbestos insulation from a hot water tank and used it in her nest. Mr. Manross said he saw the pups on several occasions, but the old fox moved them away from the area due to human activity.—District Game Protector Elmer D. Simpson, Union City.

Fast Work

CONESTOGA—I believe that one of my deputies, Warren Detweiler, can qualify for the distinction of being the fastest fox trapper in the State. Here are the facts: On Wednesday evening, August 2nd, he took several traps and left his home near Conestoga. Walking about 250 yards from the house to an old orchard, he started to set the first trap. While setting the trap, he heard a noise and, looking up, saw a gray fox about 10 feet away. Warren carried no gun. After setting the trap he returned to the house for a rifle. About five minutes elapsed between the time the trap was set and the time the man came out of the house with the gun. He heard quite a commotion in the direction of the trap and felt he had already caught the fox. His sister confirmed his hopes by exclaiming that she could see the fox. Looking in the direction of the trap, Warren saw not one, but two foxes. He killed one with his rifle, routed another out of a hole, and killed a third fox that he sighted watching the whole affair. Next he went to the trap and killed a fox in it. Three foxes in 15 minutes is quite a record, but taking one in the trap within 5 minutes is a real record.—Game Protector John P. Eicholtz, Strasburg.

Albinism All Over Albion

ALBION—For the first time in many years we seem to have broken out in a rash of albino ringneck pheasants. In the last week I observed one albino pheasant among a group of four other birds. Another hunter told me he had seen two albinos among a flock of pheasants. Still a fourth albino flew into either a water tower or a large metal industrial chimney nearby and killed itself. This bird was brought in by the person finding it and a permit to have it mounted was applied for. Using the article that appeared in a recent issue of the GAME NEWS, stating that Albino pheasants occur about once in every eighteen thousand birds, as a basis for comparison, one is led to believe we have a lot of pheasants in this area.—Game Protector Clair W. Dinger, Albion.

Outdoor Reveries



By John H. Day

Report From The Wayside

BOOTED and slickered against the weeping skies, I trudged up the back-country roadway through the gray twilight of the brief December afternoon. The far hills lay sullen beneath a lowering haze. Somewhere off to the right a forsaken cow bawled now and again in tones of deepest anguish. That heart rendering bovine lament recounted all the woes and tribulations which had befallen Bossy since her heifer days.

Sponge ice still covered most of the wide valley creek, but here and there the rips had broken through and the limpid water ran silkily across the scrubbed gravel beds. The countryside had decked its halls with plenty of Christmas greens for the approaching holidays.

Velvety gray-green rosettes of the tall mullein covered a low mound by the roadside. Bright green leaves of the poison hemlock bordered a long stretch of the roadway. Ground ivy, chickweed, and one of the sour docks added their touches of color. A mile or so farther, where the wooded hill comes down to the road, the Christmas fern hung in fresh evergreen profusion from nooks and crannies beneath the trees.

Now and then a clammy drop eased off the sycamores and found the narrow entry between the back of my neck and the upturned slicker collar. This minor discomfort was the only price I had to pay for the rare privilege of walking in the December rain along that hidden roadway.

An odd shimmering whiteness in one of the shrubs edging the creek invited closer inspection. It turned out to be a shed snake skin, wedged in a fork, the two ends flapping bravely in the light breeze. Somewhere in Winter quarters, probably close by, slept the black snake who

had abandoned that outgrown coat to brave the rigors of the cold months

The only interruptions to the delightful peace and quiet of my solitary foray through that distant valley were an occasional plane droning along through the haze overhead, and one carload of youthful deer hunters. The nimrods were homeward bound, empty handed after a concerted try for the one or two deer recently arrived in the area.

My return trip to the parked car was abruptly halted by the noisy arrival of a lone pileated woodpecker. He was homeward bound across the hills after a day of herculean digging in the dead and dying stubs of the neighborhood. He'd be a lot better off if he didn't make so much racket, but he doesn't seem to be able to make a move without yelping and grumbling to himself.

He came looping along almost overhead, then swerved up the valley and halted on a tall dead snag close above the creek. I could barely see him in the gloom as he moved about, cackling in a sort of moody undertone. Then suddenly all became quiet and I couldn't find him in the glasses.

Since he hadn't left the tree the answer was obvious. He had come home for the night and had gone to bed. Many times I have stalked this wary bird, hoping for a closeup view, only to learn how little I know of the woodland art. This time the chances seemed better than ever.

I moved stealthily back along the road to a point opposite the tall snag. The glasses revealed a great round hole near the top. This was his bedroom, carved with that big chisel bill as a fortress against the wintry blasts. If I could make it through the thickets and across the creek perhaps at long last I would reach the goal.

All went well through the dripping tangles edging the road. Nary a sound made I and nary a move made the big crow-sized woodpecker. I reached the wide spread of saw grass between the thickets and the creek. This appeared as easy going and I plunged ahead, not noticing that the deceitful grass had completely covered a decaying windfallen tree.

Into that trap of hidden limbs I pitched headlong, falling awkwardly with enough noise to wake the echoes far up and down the valley. Lying there in disconsolate and dripping discomfort, I watched the big log cock hustle off down the valley, cackling derisively over his shoulder as he gave me the slip once more. Now that I know where he sleeps I'm bound to catch up with him one of these days.

The revealing hand of Winter has unveiled many cozy secrets which the little folk of the wayside trails had kept cleverly hidden when the sun was high and the countryside lay knee-deep in June. Once past the solstice the brooding timberlands face the ruthless pruning shears which ride in the teeth of icy blasts whose job is to clear the deadwood and fell the oldsters who have passed their prime. Except where a chance grove of shingle oaks or a few cautious white oaks hold stubbornly to their tawny leaves the thickets and the forest aisles are "clean as a whistle"—starkly revealed and revealing.

The countryman rambles along his favored rustic pathways, reading the final chapters to many thicket interludes which had eluded him behind the lush growth of Summer days. Here the thorn bush reveals the warm cup, lined with a felting of thistledown, which had housed a cheerful family of goldfinches. There the swaying spicebush reveals the vireo's hanging basket, swung in a crotch scarce five feet off the ground.

That odd double-decked nest in the berry brambles stands as mute witness to one of the more villainous skits in the wayside repertory. The

horse hair lining, hunted out diligently in the neighboring barnyard, is sure trademark of the trim little chipping sparrow. A skulking cowbird had found the first nest and dropped her hulking egg in with the pale blue sparrow eggs. The red-capped sparrows had refused to be victimized and had simply built a new nest atop the original.

As the Christmas season nears the countryman instinctively turns to the bright stars overhead, in reverent remembrance of the Nativity and the guiding star which coursed the eastern heavens 1900 years ago. December nights close in quickly about him. His pathway to home and fireside, after evening chores are done, is brilliantly lighted by the great Winter constellations. His sure, quiet faith is forever strengthened by that majestic procession wheeling across the night skies above his home acres.

Star performer of the Christmas sky-show is the striking constellation Orion. Night after night, when the frosty air is crystal-clear, this great hunter may be seen in combat with the bull, Taurus. Both sides have apparently scored in this bull fight, for there is a red blotch in Orion's shoulder, where Betelgeuse smoulders angrily, while the head of the bull is bruised with star-groups known as the "Hyades" and the arrow wounds in his shoulder are familiar to all who look upward as the Pleiades, or Seven Sisters.

Orion seems to have little competition as the most beautiful star group to be seen in the northern hemisphere. I remember how this gorgeous cluster stood out in the predawn skies while I delivered morning papers as a lad. The three kings making up the hunter's belt and the stars in the sword appeared to me like a soldier's cap with stiff visor. It was not until many years later that I came to know the real name of this group and the legendary lore concerning it.

As he gazes into the night skies at this Christmas season the countryman notes the brightest star of all well down in the southeastern portion. This is Sirius, the dog-star, seventy times as brilliant as our Sun. This glowing fellow is really one of the nearer stars. Yet if the Sun's distance should be represented by one inch, the distance to Sirius would be represented by eight miles.

Sirius is the main star of the group known as the "Big Dog" which follows the hunter Orion on his nightly rounds. A little dog also courses with this gang, its main star known as Procyon. Perhaps the most interesting group is the cluster known as the Pleiades. These cannot easily be confused with any other star-group in the December skies. The seven main stars are in the form of a little dipper and serve as an excellent test for keenness of eyesight.

Six of the stars are of the fourth magnitude and should be easily visible to the naked eye. The seventh star, near the end of the handle in the dipper, is the one that is hardest to pick out. People with exceptionally keen sight can isolate 10 or 11 stars in the group. Legend has it that one of the brightest seven stars is always dim, or invisible. This is either the star Electra, mourning for Troy, or Merope, in shame for having wedded a mortal.

Many and beautiful are the Winter constellations and the myths and legends surrounding them which have come down through the centuries. Great men of all ages have been struck by their beauty and inspired by their majesty.

The countryman knows these Winter stars as old friends—as familiar as his front gate post. But at Christmas time they take on a different aspect. The December heavens, glowing in full sparkling beauty above his snug abode, declare again the glory of God to him who will but raise his eyes.

. . . *The End*



SETH GORDON NEW CALIFORNIA DIRECTOR

Seth Gordon, one of the most widely known wildlife administrators in America has been named by Governor Earl Warren as director of the newly organized California Department of Fish and Game, the Wildlife Management Institute reports. Mr. Gordon, for many years executive director of the Pennsylvania Game Commission, has served since 1948 as consultant to the California Wildlife Conservation Board. His appointment to his new post was urged by many sportsmen and civic groups.

With nearly forty years of service in the conservation field, Mr. Gordon holds something of a record for experience and prominent positions achieved. He began his career with the Pennsylvania Game Commission in 1913, leaving his position as chief game protector to become conservation director of the Izaak Walton League of America. He later became president of the American Game Association and in 1935 helped merge that organization's activities with the newly organized American Wildlife Institute (now the North American Wildlife Foundation) of which he became secretary. He was appointed director of the Pennsylvania Game Commission in 1936. A past president of the International Association of Game, Fish, and Conservation Commissioners, he has also served as secretary of the American Fisheries Society, secretary of the National Committee on Wildlife Legislation, and director of the National Rifle Association.

Simultaneous with Mr. Gordon's appointment, a new law became effective which gives California's wildlife resources full departmental recognition.

In Memory

There comes the day when each of us must break trail into the Great Beyond. We all realize this, but our hearts nevertheless cry out against the loss of a loved one, a friend, or a fellow worker. It seems that only yesterday they were in our midst; that we were talking together, laughing together, working together.

And so it is with deep regret that we announce the passing of two oldtime employes—former Game Protector Ralph A. Liphart, of Homestead, who retired August 21, 1947 after 25 years of faithful service, and Norman M. Wood, of Coatesville, former Lecturer in the Educational Service, as it was known in his day, who retired October 15, 1936 following 21 years of active duty.

Mr. Liphart died July 18, at the age of 64 following an extended period of illness; Mr. Wood succumbed suddenly on October 27, a few days following the celebration of his 50th Wedding Anniversary. He was 75 years old and as he mentioned in a letter written to the Commission on October 21 "still going strong."

In their different fields of endeavor both men were highly efficient and won for themselves and the Commission the respect and admiration which comes only from jobs well done. The memory of them and their loved ones will be with us always.

U. S TRUMPETER SWANS HIT NEW HIGH

Unless the restoration program hits a snag within the next few years, people can stop using the customary adjectives "disappearing," "rare," and "almost extinct," in referring to the largest waterfowl in the United States, according to the Wildlife Management Institute. The annual census reveals a national population of 535 trumpeter swans, 159 more than last year and 462 more than in the low year of 1935 when no more than 73 of these magnificent birds could be found.

The history of the trumpeter swan offers a perfect example of what modern wildlife management can do when given the funds and resources with which to work. Efforts in preserving the big trumpeter have been geared around the Red Rock Lakes Wildlife Refuge in Montana which is the population center of the swan in this country. The refuge was established in 1935 near Yellowstone National Park to save the dwindling remnant from extermination. Since then, birds have been transplanted to other refuges in Oregon and Nevada and to the National Elk Refuge in Wyoming. Increases were reported in all of these transplanted flocks this year.

The trumpeter, like the buffalo, was a victim of encroaching civilization into its wilderness habitat. With the destruction of its nesting, resting, and feeding grounds, it declined rapidly, and the restoration program which began in 1935 came just in time to save the birds from destruction.

Canada, simultaneously was active north of the border in preserving this spectacular bird. In the early 1930's the species was making what appeared to be a last stand in British Columbia and Alaska. Aggressive activity by the Canadian Wildlife Service and its departmental predecessor was responsible for keeping the numbers above the danger point. Dr. Ian McTaggert Cowan of the University of British Columbia estimates that numbers wintering in that province have never fallen much below four or five hundred birds. From this low the population has been built to around nine hundred. The trumpeter is a rugged bird spending the rigorous Canadian winters in areas where the only open water is that created by the swiftest rapids.

MINNESOTA PLANS TO BUY POTHOLES

Faced with the continued destruction of some of the state's most productive waterfowl areas, the Minnesota Conservation Department is taking steps to purchase and protect as many of the remaining marshes and potholes as its resources will permit, the Wildlife Management Institute reports.

Drainage and filling have destroyed untold hundreds of these shallow water areas which once produced thousands of ducks and geese each year. Some sources estimate that 20 per cent of the former surface waters in the southern counties already have been drained, and many other acres have been destroyed for waterfowl by the expansion of highway and railroad systems, by industrial and residential developments, and by overgrazing of shores. Once one of the greatest waterfowl breeding grounds on the North American continent, Minnesota now produces far less than its original quota in proportion to many other parts of the breeding grounds because of the steady shrinkage of suitable habitat.

The project will be carried out by the federal aid division of the State Conservation Department with Pittman-Robertson Act funds. To start the program, a sum of $50,000 has been set aside for the acquisition of at least 200 plots of more than five acres. Each area will average 40

acres although some will cover as much as 1,000 acres. Numerous studies by state and federal biologists have determined that small marshes and potholes are far more productive of nesting waterfowl on an acreage basis than large, unbroken expanses of marshland in single blocks.

Each area will be fenced to provide winter cover for upland game birds as well as to protect nesting cover for waterfowl and food for furbearers. Although some of these areas will be set aside as refuges during the hunting season, many will be opened to hunting to help prevent heavy concentrations of sportsmen on private lands. Since most will be managed primarily as waterfowl nesting grounds, hunting during the fall open season will not conflict with the production of ducks.

Minnesota's pothole preservation plans should have far-reaching effects in the preservation of the waterfowl resources since ducks from the state funnel into all of the three eastern flyways.

Deer Victim of Rabies

Pennsylvania's first case of a rabid deer was recently disclosed in Chester County upon receipt of the official diagnosis by the State Bureau of Animal Industry.

The victim, an eight-point buck, was found dying in a field in Charlestown township by William Whitelaw. Small wounds on the buck's side indicated that it was probably infected by the bite of a rabid fox. Deputy Game Protector Peter J. Filkosky was summoned and he immediately killed the partially paralyzed animal and sent the head to Harrisburg for examination. There animal disease authorities, in a laboratory report, verified Whitelaw's suspicions that the deer was a victime of the dread disease.



AMBROSE GERHART

The years pass quickly, almost like falling leaves. Men grow old in service and even now are planning their long "vacation." A month or so ago it was Tom Mosier who stepped out of harness. Now we honor another grand old Game Protector—Mr. Ambrose Gerhart, 141 Central Avenue, Souderton, who resigned October 1.

Mr. Gerhart started as a Deputy Game Protector back in 1916, and worked in Carbon, Monroe, Pike, Lycoming, Sullivan and Northampton Counties during the big game seasons in the years that followed. Then, on November 1, 1926, he was appointed a District Game Protector and after completing a four year assignment in Lehigh County was transferred to a similar position in Montgomery County where he served until his resignation. We will miss you Ambrose. To parallel the words of Lincoln: "The world will little note, nor long remember, what is said here; but we shall never forget the fine job you did here."

On September 25 the deputies honored "Pete," as he is affectionately known to his friends, with a dinner, and the following night a testimonial dinner was given by the officers of the Southeast Division. On both occasions Pete was presented with many valuable gifts by his associates.

BUNNIES MAKING STRIDES IN OUR SISTER STATE

The cottontail rabbit, most popular game animal of all, apparently has outstripped itself in the home-making department this year, technicians of the New York State Conservation Department report. Although virtually all game species appear more abundant this Summer than in many years, the biggest forward hop has been made by the bunnies.

Even their bigger cousins, the varying hare or snowshoe rabbit, seem to have outsmarted Nature's hazards to a greater extent this year, they said. Incidently, the Department quit the wholesale importation of cottontails from the mid-west for liberation several years ago as a useless expenditure.

NOTICE TO SUBSCRIBERS

During the next few weeks our circulation department will change over to a more modern and efficient system of addressing and mailing your GAME NEWS. This will mean, among other things, cutting, proofing and filing some seventy thousand new plates. Our staff will make every effort to avoid delay in mailing, but in the event your January issue is a bit late please be patient—we haven't forgotten you.



Photo by H. Doud

When Vernon F. Beaker, of Galeton, (center) found the deer outsmarting him on the second day of the Special Archery Season he promptly rounded up all the bow hunters that happened to be hunting in his neighborhood and ganged up on the wily bucks. The party included archers from New Freedom, York, Willow Street, Lancaster, Pine Grove, Pottsville, and Lewisburg. The ensuing hunt resulted in a nice buck apiece for Maynard Freeburn of Dillsburg, and Edward Bentzel of Lancaster.

DON'T WASTE THAT MEAT!

Henry P. Davis, editor of the Remington News Letter, offers the following valuable tips on the proper handling of game after it has been shot:

It's one thing to bring that big buck down, but to get that meat out of the woods and safely home without wasting a good portion of it is quite another problem.

The hunt never comes to a successful conclusion until the fruits of the hunter's labors reach destination without spoilage and the trophy is properly cared for. Much excellent venison goes to waste each season because the hunter does not exercise proper caution in dressing the animal out and seeing that the meat is completely cooled as soon as possible.

The experienced big game hunter goes equipped to take care of his meat. Such equipment should include at least a hunting knife, some 20 or 30 feet of light but strong rope, some red cloths of flagging, a small belt axe and, if you are in warm weather country, four light muslin sacks, each large enough to hold a quarter of the animal. A sprinkler box of black pepper might prove quite valuable. And don't forget a few pieces of clean wiping cloth. This may sound like a considerable amount of truck to lug around, but you may find that each piece is worth more than a British pound.

As soon as the animal is killed, the hunter should tag it. Turn the animal's head downhill so that it will bleed freely, insert your knife at the point of the brisket and cut forward towards the head (unless, of course, you want to save the head for mounting).

Cut the carcass open from crotch to throat. Be careful not to puncture the intestines. Cut around the vent and loosen the organs in the pelvic cavity, taking care to keep hair from coming in contact with the meat. Now turn the carcass so that the head is uphill. Cut windpipe and gullet free at the throat. Pull backwards on these, cutting free from the carcass any part that sticks. Now remove all internal organs. Open the cavity and spread it apart with a stick. Wipe it dry with a clean cloth. DO NOT WASH IT OUT WITH WATER.

If you are taking the carcass out of the woods before cooling and quartering, leave the heart and liver in the body cavity. The easiest way to cool the carcass out is to hang it in a shady spot. This should be done as soon as possible, as body heat causes the meat to spoil quickly. Spread it so that air can circulate freely. The black pepper will aid in keeping flies away.

In handling the meat, cut the carcass in half down the center of the backbone lengthwise. This can be done with a belt axe, but a small meat saw mill do a neater job and is certainly easier to use. Cut the sides in two pieces, with the floating ribs remaining on the hind quarters. Place each quarter in a clean muslin sack and hang in a cool place. If the weather is warm, hang the meat out only at night. Keep it wrapped in the daytime. Remember, always keep that meat cool!

If you are bringing the whole deer out of the woods, be sure to flag it with plenty of pieces of red cloth. Never transport the animal on an automobile fender next to a heated motor.

After you get your meat home, unpack it as soon as possible and cool in a dry place. Whether permitting, it would be well to allow it to cure for a week or so before storing. If you plan to put it in cold storage, it will be best to give it a quick freeze first. Don't take chances. A little extra care will pay big dividends in delicious meals that will bring back to you all the joys of the hunt."

Christmas Gift Suggestions for the Sportsman's Bookshelf

THE WAHOO BOBCAT
by Joseph W. Lippincott

207 pages. Illustrated in color and black-and-white by Paul Bransom. Published by J. B. Lippincott Company, Philadelphia. Price $2.50.

With a background of fifty years of hunting, fishing and exploring in Florida's prairie wilderness, and inspired by native tales of bobcats and their ways, the author weaves an exceptionally entertaining story of a huge wildcat and its human neighbors. How a backwoods boy became the wildcat's friend and the manner in which the Wahoo Bobcat influenced the lives of the Prairie folks is pleasingly told in this story sparked by inumerable gems of nature lore. The wild characters of the narrative—the 'gator, the wild hogs, the panther, the rattler and others are endowed with life and their personalities and passions revealed by Lippincott's sympathetic pen. Certainly no one who reads this book can fail to come to a better understanding of the ways of Nature's children.

PHOTOGRAPHY AFIELD
by Ormal I. Sprungman

449 pages. Illustrated with several hundred photographs in black-and-white, as well as numerous color photos. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. 1951. Price $7.50.

"Complete" is the word for this large, clearly written textbook for the outdoor photographer. It is divided into two parts —one dealing with stills and the other with movies. Each covers every imaginable phase of picture-taking with chapters on equipment, composition, flash photography, fish photos, camera gunning, bird photos, big game, color work, movie making, wildlife movies and many others. The author, who has been Camera Editor for Sports Afield for seventeen years, has literally packed this book with valuable information, and has presented his solutions to the most difficult problems in a manner that even the rank amateur will immediately grasp.

The myriad black-and-white photos represent the work of most of America's top-flight wildlife photographers, and each one, together with its caption, is a photography lesson in itself. The color photographs are bound to surprise the average camera bug who always considered that sort of thing beyond the capabilities of color film.

All things considered, this book is practically indispensible to the outdoor photographer, beginner or professional.



BIRDS OF PREY OF NORTH-EASTERN NORTH AMERICA
by Leon A. Hausman

164 pages. Illustrated in one color by the late Jacob Bates Abbott, with a full color frontispiece by George M. Sutton. Published by the Rutgers University Press, New Brunswick, N. J. Price $3.75.

Of all our avian friends the birds of prey have been the most maligned. For centuries the hand of man has been against our hawks and owls in the mistaken belief that they are all villians in feathers. Only recently has the public shown signs of accepting evidence to the contrary, and Dr. Hausman's book has played no small part in this transition. Between its covers the reader will find the true life history of each hawk, owl and vulture. He will learn that a few prefer a diet of poultry, song birds, and game, that many feed almost entirely on destructive rodents, and that some promiscuously shot by uninformed persons are not too far removed from the danger of extinction. The reader will also learn to identify the different species from the simple descriptions and splendid full page illustrations. He will learn that each bird has a distinct personality, a trait too often overlooked by the strictly scientific ornithologist. In short, this book will open a new and thrilling field of study to the bird student, one that has too long been obscured by the unwarranted prejudice of the uninformed.

THE ELK OF NORTH AMERICA
by Olaus J. Murie

376 pages. Profusely illustrated with photos and line drawings by the author, full color frontispiece by Walter A. Weber. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. 1951. Price $6.50.

This is an extremely comprehensive treatise on what most hunters and naturalists agree is America's most majestic game animal. All the information you might desire

about elk is contained in this one volume; a few of the many subjects treated are elk distribution, physical characteristics, reproduction, natural enemies, diseases, food habits, elk hunting and elk management. Whether you are a research technician in search of the latest information on parasites or herd management, or an amateur nature student who wants to brush up on his life histories, this book will give you all the answers. And the novice will note with delight that even the most technical discussions are written for popular consumption.

The illustrations leave nothing to be desired. Both art work and photos are uniformly excellent, and clarify such things as dentition, antler formation, gaits, and certain physical features far better than text alone.

The author has undertaken several collecting expeditions for our leading museums, and has made intensive field studies of various game animals. For the past fifteen years he has made his home in the heart of Wyoming's famous elk range, conducting the research for this book. One need only to scan the pages of "The Elk Of North America" to see why Dr. Murie is recognized as the foremost authority on elk in America.

FEATHERS PREFERRED

by W. Austin Peters

198 pages. Illustrated with pen-and-ink spots. Published by The Stackpole Company, Telegraph Press Company, Harrisburg, Pa. 1951. Price $3.75.

This charming volume is definitely a Jekyll-Hyde among books; it is at one time an amusing narrative, then a serious, stirring plea. In his inimitable style Mr. Peters takes the reader back to his childhood days in Ontario—back to his initial forays on game, armed with his father's formidable shotgun. These laughable experiences are related with the sparkling humor of a man who has never forgotten that he once wore knee pants and a dirty face. In his book the boy grows up, but as his hunting proficiency increases he also becomes aware of a growing scarcity of waterfowl and game in general. At this point the book takes a serious turn; the young man in the story has become mature in his reasoning. He no longer believes Nature's storehouse of wildlife inexhaustible, and he realizes that overshooting, predation, and change of environment are cutting into wildlife populations. The final chapters are a discussion of all factors detrimental to the wild creatures the author has come to love, and of management and restoration methods of interest to those who wish to take a hand in replenishing our game supply.

Mr. Peters is a delightful writer as well as an accurate naturalist. His chapters on predators and on game bird breeding, for instance, should be quite dull to the average reader—but actually they're far from it. The author has the exceptional faculty of being able to make any subject intensely interesting. And the accounts of his Canadian hunting experiences fairly reek with the flavor of the North Country. Anyone who enjoys good outdoor reading would like "Feathers Preferred" and a dyed-in-the-wool bird hunter would be wild about it.



DR. CLYDE A. MORTIMER

Sportsmen everywhere lost a great friend and leader on the occasion of the death of Dr. Clyde A. Mortimer last July. In addition to his many community civic associations, Dr. Mortimer's name was monumental in the organized sportsmen's movement in Pennsylvania. Initiated in the sectional work of the United Sportsmen of Pennsylvania, he was elevated to the office of Secretary-Treasurer when the PFSC was formed in Harrisburg some two decades ago.

Dr. Mortimer was also instrumental in the organization of the Wayne County Sportsman's association at Honesdale. Among his many sportsmen's clubs affiliations, the PFSC official prided his membership in the Franklin Sportsmen's club in Wilkes-Barre.

Civically he was associated with the Honesdale Business Association and later the Honesdale Chamber of Commerce. At the time of his death he held the office of a director in the latter organization.



Scoring and Classification of Archers

By Thomas A. Forbes

PART II

Scoring a Field Roving Tournament

THE general procedure and customs described in the previous article apply equally in scoring a field roving tournament. Shooting methods and scoring differ and are explained herein.

The National Field Archery Association Field Roving Round is shot over a fourteen target field roving course called a unit. Twice around a unit constitutes a round, or two separate units making a total of twenty-eight targets also constitute a round.

The terms Out and In are used to designate the order in which the unit is shot in a round. The first unit shot in a round is designated the Out unit and the second unit shot in the round is designated the In unit. The butt is any object against which a target face is placed and the shooting position is called a post. All posts are numbered but the yardage is not indicated.

As the archers register for a field roving tournament the field captain sees that a target captain and two scorers are appointed for each group which shall consist of not less than three not more than five archers; four is the preferred number. The field captain designates the order in which the groups are to shoot or assigns the posts from which each group starts, depending on which system is used.

Shooting Rules

Each archer shoots four arrows at each of the fourteen targets in the unit. In ten cases on an official National Field Archery Association course this will result in shooting the four arrows from a single post at a single face. In the remaining four cases it may mean shooting one arrow from each of four posts at a single face, or it may mean shooting all four arrows from a single post but at four different faces.

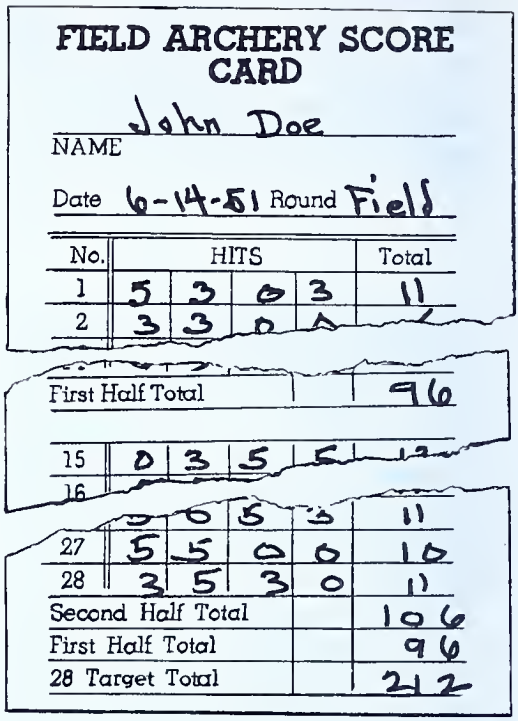
Archers shoot in the order of the scores made on the previous target, i.e., highest scorer shoots first, etc. In case of a tie the target captain may state the order of shooting. If the course permits, two may shoot at a time. If an archer is required to stop shooting because of a broken bow string, or similar cause, he must take witnesses, appointed by the field captain, with him when he completes the round.

Scoring

The target face is divided into two concentric scoring circles with an aiming spot in the center. An arrow landing in the inner circle including the aiming spot scores a value of five and in the outer circle a value of three. The outer line of a field archery target is outside the scoring field. For that reason the arrow must cut the line so that no color of the line can be seen between the arrow and the scoring field before a hit can be recorded. The same is true for the inner line which divides the two circles in order to score the value of the higher circle. An arrow that skids or glances into the target has no scoring value and an arrow that passes through the face, and remains in the butt, may be scored as a hit in the circle through which it passed only if

it is pushed back through the face. It cannot be withdrawn from the back of the butt and then inserted in the face of the target. Arrows bouncing off or passing through the target have a scoring value of three points when witnessed.

Figure 10 shows a field archery score card with a record of the values of the arrows shot at the first two targets as recorded by the scorers. Four horizontal spaces are provided under the heading entitled HITS to record the value of each of the four arrows. In the example the archer shooting at the number one target missed with his third arrow and the scorer inserted a O to indicate the miss. The figures in the column entitled TOTAL are the sum of the values of the four arrows shot at the target. In the example the figure 11 indicated the total scored on No. 1 target. When the first unit of fourteen targets has been shot the column entitled TOTAL is added vertically and the total score for the unit is inserted on the score card opposite the space lettered "First Half Total." After the second unit has been shot the total score is found by adding the total scores for each unit which gives the "28 Target Total" or a Field Roving Round Score.


FIELD ARCHERY SCORE CARD

NAME John Doe

Date 6-14-51 Round Field

No.	HITS				Total
1	5	3	O	3	11
2	3	3	O	X	
First Half Total					96
15	O	3	5	5	
16					
		O	5	3	11
27	5	5	O	O	10
28	3	5	3	O	11
Second Half Total					106
First Half Total					96
28 Target Total					212

FIG. 10

Scoring a Broadhead Round

The broadhead round places a premium on the archers ability to score with his first arrow. The round is shot over a standard one or two unit field round course using broadheads instead of target arrows. Any weight of bow is permitted. Arrows used in the men's division must weigh at least one ounce and those used by the women and juniors three-quarters of an ounce. The broadheads must be solid and barbless, and at least seven-eighths of an inch wide and one and three-quarters inches in length. To identify the order in which arrows have been shot, each archers arrows are numbered consecutively and the lowest number shot first.

An archer is not permitted to use any device to assist him in determining distances, except a fixed sight or mark. Arm guards, shooting gloves or tabs of conventional use are permitted. No other device to assist shooting is allowed. An archer should provide himself with a sufficient number of arrows so that time will not be lost searching for arrows during the course of the round.

At each target the archer may shoot not more than three arrows. If the archer scores with his first arrow he stops shooting at that target. If the first arrow misses the archer shoots the second. If a score is made with the second arrow the archer does not shoot the third arrow. If the second arrow also misses the scoring face of the target the archer shoots his third and last arrow at that target.

An archers first arrow pays the highest scoring value, twenty (20) points in the white and fifteen (15) points in the black. The second arrow scores fifteen (15) points in the white and ten (10) points in the black. If the archer has failed to score with

either of his or her first two arrows and is required to shoot the third arrow its scoring value is ten (10) points in the white and five (5) points in the black. Thus if the archer is required to shoot the third arrow and scores a white with it, the value of the arrow ten (10), is only half what the archer would have earned if a similar shot had been made with the first arrow which would have had a scoring value of twenty (20).

This is the round in which a good target archer using the under-jaw anchor finds it difficult to compete against the instinctive shooter. A target archer shooting a field roving round uses this first arrow as a ranging shot to determine elevation and considers himself lucky if the first arrow hits the scoring face of the target. The archer then shoots the remaining arrows confident that he or she knows the range for that particular target. Using this method a target archer may compile a good total score in a field roving round but ordinarily he cannot expect to place high in the list in the broadhead round. A beginner who decides to use a high or cheek anchor should develop good shooting form at a fixed distance on a practice target. Once accuracy is obtained which is proof that shooting form has been acquired the archer should move from one spot to another on each shot, varying his or her distance from the target and through constant practice learn to deliver his arrows to the mark regardless of the distance.

. . . *The End*

Pennsylvania
Resident and Non-Resident Hunting Licenses Issued By County

COUNTIES	RESIDENT 1950	A.F.	D.V.	NON-RESIDENT 1950
Adams	5,646	47	..	487
Allegheny	61,294	288	8	159
Armstrong	12,900	55	5	72
Beaver	13,217	29	16	278
Bedford	7,504	38	4	339
Berks	22,601	137	6	50
Blair	16,721	185	..	169
Bradford	9,175	47	7	588
Bucks	9,604	265	4	814
Butler	12,329	3	..	104
Cambria	22,522	63	20	143
Cameron	1,550	24	1	206
Carbon	5,993	59	2	65
Centre	10,956	48	9	114
Chester	13,092	40	6	423
Clarion	8,206	45	7	241
Clearfield	14,512	93	7	326
Clinton	7,416	77	5	119
Columbia	8,258	87	2	87
Crawford	13,467	47	10	443
Cumberland	12,871	261	1	53
Dauphin	19,203	543	10	175
Delaware	11,656	61	..	171
Elk	5,897	29	..	290
Erie	22,424	72	9	709
Fayette	17,674	109	12	154
Forest	1,260	...	2	463
Franklin	10,439	118	1	372
Fulton	2,041	20	4	93
Greene	4,454	24	6	75
Huntingdon	7,213	61	9	152
Indiana	11,238	59	13	198
Jefferson	10,737	35	9	762
Juniata	2,763	1	3	29
Lackawanna	14,138	102	16	205
Lancaster	26,680	111	3	163
Lawrence	10,918	55	4	959
Lebanon	10,154	141	4	33
Lehigh	12,277	143	7	82
Luzerne	30,103	248	..	397
Lycoming	15,504	136	10	291
McKean	10,447	61	1	1,320
Mercer	14,367	56	4	1,569
Mifflin	7,691	113	7	97
Monroe	5,823	35	1	515
Montgomery	20,931	69	2	53
Montour	2,081	33	1	23
Northampton	15,818	79	..	701
Northumberland	13,460	63	5	57
Perry	4,002	28	1	30
Philadelphia	22,117	544	..	578
Pike	1,553	21	2	1,517
Potter	3,919	32	3	1,100
Schuylkill	19,653	96	9	61
Snyder	3,654	19	2	21
Somerset	12,768	106	13	308
Sullivan	1,422	30	1	52
Susquehanna	4,755	26	..	275
Tioga	7,219	31	2	648
Union	3,794	44	6	26
Venango	9,666	73	1	554
Warren	6,383	29	8	1,338
Washington	18,502	31	3	338
Wayne	4,632	28	2	485
Westmoreland	31,237	103	9	218
Wyoming	2,794	17	..	108
York	22,006	125	..	405
Dept. of Revenue	870	...	..	2,551*
Totals	808,171	(5898—325)**		26,001*

* Includes 5 alien Non-Resident Hunters' Licenses.

** The figures in parenthesis indicate "Free Licenses Issued to Members of the Armed Forces and Disabled Veterans"#, which are included under column "Resident Licenses."

A.F. indicates Armed Forces; D.V., Disabled Veterans.

The 1949 General Assembly authorized the issuance of "Free licenses to Disabled Veterans.



Strictly Brush Rifles

By Ed Shearer

NOW that we are in the deer season rifles seem to be the chief topic of conservation wherever sporting goods are sold. Maybe the fact that so many of our old favorite rifles have passed or are passing out of the picture with no new ones to replace them, may have something to do with it, but the subject seems hotter this year than usual.

Then again I suspect that the new generation of deer hunters has become sufficiently experienced to begin to cock a critical eye at the alluring pictures painted by the advertisements. In short, psychological adertising is beginning to run up against personal experience—which is generally bad for the advertiser.

It seems to work something like this: Man being naturally a gregarious animal, the majority of deer hunters belong to camps or hunt in parties made up of friends or fellow workmen. Then they proceed to drive sundry chunks of scenery, mostly bad, until they kill a deer or become exhausted. In the latter case they stand or sit around with the fond hope that some one else will chase one their way. Stillhunting, or what passes for it nowadays, is very much in the minority.

Now there is no more bashful citizen in the big woods than a whitetail when he makes up his mind that someone is trying to put the "Whammy" on him. He has a perfect memory for the thickest cover and with the continual banging, howling and shouting going on around him, that's where he stays.

If you hanker for the sound of steaks sizzling in the skillet someone has to dig him out of the thick stuff. This the average crew does or tries to. This digging out process is where the novice, now ripening into the skilled performer, through bungling and lost opportunities starts to get the idea that he has been "sold down the river" with his long range scope-sighted Super Duper.

This germ of suspicion starst growing when he figures the ranges the diggers and stoppers are killing their deer. That night in camp he declaims, "T' heck with this long-nosed gimmick; I'm goin' to get me a brush gun."

This Fall at a sportsmen's gathering I listened to a lively discussion on this very subject. "What makes the brush gun?" one asked. "How about an article on that?" asked another.

Well, as a gun editor is subject to the will of his readers here is my idea of a brush rifle, as born out of experience and of many failures.

In the brush and pole stage timber such as the East offers, shooting is usually at close range. In general, these conditions call for offhand shooting although occasionally a kneeling or sitting shot will be had. The rifle should be light, finely balanced and short for very fast handling. It should have another thing that is vital in this type shooting—*pointability*. Manufacturer's today avoid mentioning that in their advertising because so few of their rifles have it. Long experience in the brush and in exhibition shooting taught me the value of this point. You wouldn't

take a poorly pointing shotgun into the brush for birds and the same goes for a rifle.

Balance is important too. The more evenly you get the gun weight distributed between both hands the faster it will handle, allowing more time for an accurate aim. A rifle should be as streamlined as possible so that it won't catch on brush or clothing when you are in a hurry.

The stock will be shorter and have more drop than will be found on most bolt action guns today, which reflects the target shooters influence. There are no prone positions in the brush. It should have shotgun fit. I learned this the hard way.

The late Virgil Richards of Remington (then with Winchester) was deer hunting with me. There were ten of us strung out on a path leading across a flat, Virgil was about 15 feet behind me. I was shooting the then new .270 Winchester, with gun carried back against my shoulder, barrel pointing straight up like a bird hunter.

I saw the lead man stop and hold his hand up. Then things started happening. A big 8 point buck boiled out of the brush and headed for the hole in the line between Virgil and me. There were ten feet of safe angle to shoot in, and I tried to shoot by pointing. That long stock hit my shoulder and I shot over the top of the buck at 8 feet; Virgil, shooting that natural pointing model 86 Winchester ¾ magazine .33 cal. downed him. The 200 grain slug broke both shoulders and went on out.

The stock should have a shotgun butt with some type of non slip butt plate and enough pitch to make it stay put on the shoulder while operating the action.

The barrel should have a maximum length of 24 inches, with 20 or 22 inches preferred. The important thing is that it should be straight or with a very slight taper to allow the lowest possible mounting of the sights. One of the great virtues of the old model Winchesters and Marlins lever actions with full octagon barrel was the low mounting of the sights. The level top of the barrel helped align the eye with the sights and the target, as well as prevent canting the rifle.

The builders of the "Old Kentucky" rifle knew, this which was the reason those old time rifle barrels were invariably octagon. Any experienced hunter knows that overshooting is the greatest single cause of misses in the brush. Our modern rifles with their slender, tapered barrels and high ramp front sights are particularly bad offenders in this respect.

In brush shooting properly designed open sights come into their own. They should be coarse enough for instant aim. The rear sight should be flat tipped, with a notch wide enough for side checks. The notch should be deep enough to avoid over shooting on fast shots. The wide shallow V used on English double barreled express rifles are very good in this respect. The BIG aperture rear sights are only a whisper behind. These sights should be shot with both eyes open.

The action should permit a very fast second shot. I *don't* believe in a fusilade of futile lead; I'm a very firm believer in making the first shot count. It generally is your best shot. But in thick cover, a solid hit may slow the animal or put him down momentarily. In either case he won't be in sight long or cover will intervene. The automatic, which is illegal in Pennsylvania, is the fastest action with the pump and lever close behind. The bolt action is the slowest of the repeaters.

Because a good many shots will be straightaways and in heavy brush the high velocity cartridges are ruled out. I've seen too many failures under these conditions due to either blowing up on brush or failing in penetration on the animal.

On one occasion I shot a buck squarely between the hams with a .30/06 with 150 grain bullet at 3000 feet per second—distance 30 yards. He was going strong when the next watcher downed him with a shoulder shot from a 200 grain .33 bullet. The 150 grain went to pieces in the deer's stomach. I mention this shot because it is often said this load is deadly even on a stomach shot. *Sometimes* it is!

What is needed is a long heavy bullet at not over 2500 feet per second velocity. It should have a round soft nose or a flat point. This is the only type bullet that will take small brush or limbs with a reasonable certainty of arriving. At high velocities these bullets tend to break up and lose their penetration.

Some cartridges that I have used and seen used under these conditions and have given fair to good performance are: .30/30, .32 special, including the Remington rimless series of similar calibers with 170 grain round-nosed soft points. The .35 Remington and .33 Winchester are close to being tops for this work on deer and bear. I have shot several deer under these conditions and never had a failure in gun or ammunition. The bullets used were 200 grain round and flat-nosed at about 2200 feet per second velocity.

The .30/40 Krag 220 grain round-nosed bullet at 2200 feet per second and the same bullet in the .30/06 at around 2400 feet per second give fine results.

The .348 Winchester with the 250 grain at 2350 feet per second should be a honey but the rifle is a bit on the heavy side for fast handling.

The .303 Savage with the 190 grain at close to 2000 feet per second does a good job. The .300, if loaded with an 180 grain round-nosed bullet at 2370 feet per second, is close to the top, due chiefly to the fine pointing qualities of the model 99 rifle that Savage builds to handle this cartridge.

The 6.5mm Mannlicher, with the 160 grain round-nosed bullet, and the 7mm with the 175 grain bullets do a fair job, but the 8mm with the 236 grain bullet is better. I mention these because many finely balanced rifles are built for them. For the man who will put in some time in dry practice can get by with a bolt action although he never can obtain the speed of the pump or lever action.

With the exception of the 6.5mm and the .348 Winchester I have killed or have been in on the killing of a minimum of ten deer for each of these calibers. In general they will go through making good wound channels. They seldom stop deer hit too far back on a broadside shot but will leave a good blood trail.

It's on quartering or raking shots that they are so superior, driving through to the chest cavity.

These rifles should be sighted to shoot center at 100 yards. Their trajectory will then run around an inch or less. There will be times when only a deer's head will be visible from behind a stump or tree. Sometimes heavy limbs or brush give you only a small space to get a bullet through. That's when you don't want to guess at your bullet's trajectory; you want your bullet close to your line of sight. You can learn to hold over on the occasional long shot.

Now, like any other class of rifles these are not entirely faultless but by their virtues are they known. The more you use rifles under all conditions the quicker you reach the conclusion that the mythical all-around rifle is only another word for compromise.

. . . *The End*



Kitchen Tricks With Small Game

By Grace O. Beach

WHEN properly cooked game is a most delicious food, far surpassing in flavor any domestic meats. Their flavor is no doubt due to the fact that most game animals and birds and vegetarians, living on wild seeds, nuts, berries and greens that grow in field and woods.

Wild game can provide such delightful meals that it is regrettable to hear so many sportsmen complain that their lady fair can't cook game fit to eat.

Recently, a man who operates a garbage collection agency made the statement that he hated to see hunting season roll around, even though he enjoyed the sport, because it made his blood boil to see the great amount of game that found its way into the garbage can, much of it never even reaching a cooking pan.

With food prices what they are and most of us finding it extremely difficult to stretch our dollars to meet our needs, it is a great shame to waste this food. Many of us welcome it as a budget stretcher beside providing new, unusual and tasty repasts.

It is true that very few cook books usually found in the modern home today contain recipes for cooking game, but that seems small excuse for the waste of game, for recipes can be obtained from many sources for little if any cost.

This month our column will be devoted to recipes for cooking small game, so that readers of GAME NEWS will not be without recipes for preparing it into tasty delicious meals that will be enjoyed by all the family. It is hoped that none of our followers consign game to the garbage can.



Since rabbit is one of the most popular of the small game animals and brought home most often by the sportsmen, we will start with them. Try fixing rabbit this way for a new taste delight.

Roast Rabbit

Take one rabbit that has been skinned and cleaned. Cut the rabbit into sections, roll in flour and brown in hot fat. When brown remove rabbit to roaster and place over rabbit the slices of one orange and two or three slices of lemon. Add two small green peppers chopped fine, 1 tablespoonful of chopped celery, a bay leaf, and a tablespoonful of chopped parsley. Over all pour a cup of broth or a cup of bouillion, to which you have added a pinch of ginger. Cover and roast in a moderate oven until the meat is tender, basting frequently.

Hunters Pie

Cut a cleaned rabbit into sections, roll in flour and brown in hot fat. Put browned rabbit in kettle, barely cover with water, add a bay leaf and about 10 or 12 leaves of Rosemary. Season with salt and pepper, cover and simmer until meat is tender. Remove meat from liquid and take meat from bones. Cut into cubes or pieces about 1 inch square. Place in greased baking casserole and add to it one cup diced cooked carrots, one cup diced cooked potatoes and one small buffet can of peas. Melt three tablespoonfuls of butter in a skillet and in it saute two tablespoonfuls of chopped green pepper, two tablespoonfuls of chopped onion and two tablespoonfuls of chopped celery.

When they are tender add to the mixture in the casserole together with a tablespoonful of chopped parsley. If you like a little use garlic, use one-half bud chopped or sprinkle with a little garlic salt. Mix the ingredients together and over all pour the liquid the rabbit was simmered in. If there is not sufficient liquid to just cover the ingredients, add some stock or bouillion to make enough liquid. Place the casserole in the oven at 450 degrees until it is bubbling hot. Then cover the top with biscuit cut in small sizes and bake until biscuits are done. This makes a good one dish meal and with salad, beverage and desert we believe your family will call for more of the same.

Incidentally, squirrel can be fixed the same way, but since squirrels are smaller you will need two for the same proportions.

Roast Pheasant

Clean pheasant and disjoint and cut into sections as you would any bird, or if you prefer to roast bird whole and carve at table you can do it either way. Rub bird with flour, sprinkle with salt and pepper and place in roaster. Lay a few strips of bacon over bird and roast uncovered. Start the bird at 450 degrees for 15 minutes then reduce heat to 250 degrees for balance of cooking time. Roast uncovered, basting occasionally. When the bird is nearly done, add two cups of red claret wine and continue cooking, basting frequently until tender.

Pheasant in Casserole

Clean and cut up pheasant. Roll in flour and season with salt, pepper and poultry seasoning. Cook in hot bacon fat until nicely browned on all sides, place in greased casserole. Now chop two onions and saute until golden brown in the fat the pheasant was fried in, then stir in two tablespoonfuls of flour put over this two cups stock or clear soup and stir until thickened. Pour over pheasant in casserole and over the top lay several slices of sour apple. Cover and cook in moderate oven until tender.

Broiled Grouse

Singe prepared bird and wash thoroughly, wipe dry with cloth. Brush bird with bacon fat or olive oil and season with salt and pepper. Place on greased broiler pan starting with the skin side down, broil for about 15 minutes and then turn. Serve quickly on hot platter.

Roast Wild Duck

Dress and clean ducks, sprinkle with salt inside cavity. Then stuff duck with the following mixture; Soak ¼ cup wild rice over night, then cook in boiling salted water until tender and fluffy. To this add 3 tablespoons chopped celery, 1 tablespoonful of chopped onion which have been sauted in butter, three tablespoonfuls of dried grated toasted bread, season with salt, pepper, poultry seasoning, a pinch of sage to taste, and mix well. Moisten all with about three tablespoonfuls of melted butter, being careful not to get too moist. Pack this stuffing in the cavity of the bird lightly so that it will not be soggy, and sew up bird. Rub outside of bird with flour and salt and pepper and roast uncovered in a moderate oven about 375 degrees until tender.

Serve this with an orange sauce. To make enough for one bird take 6 tablespoonfuls of orange juice, 4 tablespoonfuls of lemon juice, a little of the grated rind of the orange and three tablespoonfuls of current jelly. Mix all together and to this add powdered sugar to taste, this will require about one cup scant. Some people prefer to add a small amount of horseradish to this sauce, but we prefer it plain.

. . . *The End*



Obedience

By Herbert Kendrick

THERE is no rightful place in the field of hunting for the disobedient dog. The superlative glory of gunning is completely spoiled for the dog and his master if obedience has been omitted from the dog's training. Of all the tasks facing the dog handler, perhaps teaching his animal to obey him is most important. Gun dogs can cause you to grow grey prematurely by jumping up and placing muddy feet on you or your guests, or refusing to come in when called, climbing over you in a restless manner when you're driving your car, and generally refusing to obey your commands.

To simplify the tasks of teaching obedience or anything else for that matter, the handler must be thoroughly conscious of his dog's limited powers of understanding; be kind, patient, thoughtful and possess the animal's complete love and confidence. If the teacher is rough, loses his temper and punishes the pupil too harshly, it is highly possible the dog will not understand what he is expected to do, and the entire lesson will end in confusion.

It is perfectly natural for a dog to want to jump up on his master showing his affection by getting his nose as close as possible to a man's face. However, it is an annoying habit and can be cured without difficulty.

As the dog approaches and puts his paws on you, hold them in one hand and speak affectionately. At the same time, firmly press your foot on his rear toes. This gentle pressure will cause him to quickly get down, and yet he cannot feel that you have mistreated him. When he is on all fours, reach down and pat him. A few lessons in this manner will break the habit and there will have been no breach of friendship between the dog and you.

Howling and barking are unnecessary habits that can be corrected quite easily if treatment is applied early and continued long enough. Chain the dog to its house and leave him alone until he starts the noise, then sneak up behind him, give a command to be quiet and the same time spank him with a rolled newspaper. The shock and simple punishment will clearly show him your displeasure. Repeat the performance until he stops the habit.

Muzzles are used on the persistent ones that ignore simple punishment. Apply the muzzle when he barks, remove it when he behaves and he will soon learn that it is far more comfortable to stop barking than to wear a tight muzzle.

When your dog insists on chasing automobiles, get a couple of your friends to help. Have one drive the car and the other sit low in the back seat with a bucket of cold water. Drive slowly by the dog and when he approaches the car, dash the entire pail of water in his face. The shock and force of the water will make car chasing extremely unpleasant for him and it will take only a few treatments to cure him completely. Pebbles or shot can be substituted for water if the weather is cold.

There are times when it is necessary to ask your dog to lie dow and if you train him early he will obey you without hesitation. Take him on a

leash, command him, "Down," in a firm manner and at the same time press down on him until he lies. Do not allow him to arise until you give him the word, "Up." After several lessons, make him lie down long enough for you to leave him alone in a room. Don't expect perfection in one lesson and do not lose your temper when he rushes off and ignores your calls and commands, just so he eventually obeys you, reward him with a tidbit and/or affectionate pats.

By all means teach your dog to heel. There are times when it is necessary to walk with your dog along the road, on sidewalks or in heavily congested areas, and the man who allows his dog to pull him along or gets him wound up in the leash, makes an embarrassing situation for himself.

Have the dog walk at your side and give him the command to "Heel." If he walks faster and inches up ahead, rap him lightly with the leash. A limber, keen switch properly applied will keep him in line. Do not allow him to break from you at any time until he is thoroughly trained. He will soon learn you expect obedience; he learns what you want him to do and he wants to please you.

A dog's greatest pleasure is the praise and affection from his master and the task of dog training would be greatly simplified if more trainers would spend more time showing the dog what they want and less time in harsh, rough punishment.

. . . *The End*



Muskrat Trapping

By L. J. Kopp

THIS year the majority of trappers throughout Pennsylvania are again looking forward to an open muskrat season. As a result of a closed season on this little fur bearer last year, they have increased considerably in all areas which normally produce muskrats, and have also moved into various streams where they had been unknown in previous years. And so with a greatly increased muskrat population, together with a whetted aspiration after a closed season, there will probably be as much excitement, and expectations among trappers as there usually is among deer hunters, on the first of December.

What kind of traps to use for muskrat trapping is probably one of the most frequent questions asked by young trappers.

For many years the No. 1 trap has been accepted as the proper size for muskrats. These traps are made by various trap manufacturers in both long spring and under spring style. There is very little difference in performance between these two types.

Frequently traps are set at places where the water is not deep enough for the muskrat to drown itself. In such cases the trapped muskrat usually escapes. Some of these frequent escapes can be prevented by setting the trap in about three inches of water, allowing the muskrat to swim over the trap with its front feet,

and be caught on a hind leg. Muskrats caught on a hind leg seldom escape.

Because of this animal's habit of escaping from traps, manufacturers have designated a trap especially for muskrat trapping. These traps are known by such trade names as Shur-Hold, and Stop-Loss. While similar to ordinary No. 1 traps, they are designed primarily to prevent muskrats from escaping, regardless of the waters depth.

It would therefore be a good idea for a trapper to buy some of both types of traps, and as such have a suitable trap for any good set location that may be found along the stream, regardless of the water's depth.

The No. 1½ trap is also a very popular trap among muskrat trappers, since this trap will usually secure a higher grip than the No. 1. At the same time the No. 1½ trap may also be used for mink, coon, and skunk trapping.

Where to set traps for muskrats is comparatively simple, since muskrats limit their activities to such places where they find sufficient food, and clean water. Productive sets are then made wherever one notes muskrat sign, such as tracks, droppings, etc. Contrary to general opinion, traps should not at any time be set in muskrat dens. Personally I never bother to look for dens, much less set my traps in them.

Overhanging stream banks offer excellent places for traps. Quite frequently one will find a well worn path under such overhanging banks, and one or several traps placed in the water under such banks will catch many muskrats.

Coons will also travel underneath such banks, and it is not surprising if one will catch several well furred December coons.

Rocks or logs which one often finds situated along stream banks in such a way as to form a narrow passageway between them and the bank of the stream, are also very good set locations.

It may be helpful to know that muskrats travel along the edge of the stream at all such places where the current of the water is too strong for the muskrat to swim easily. Traps may be placed on each side of the stream at a point where the faster current begins. Place a good sized rock in the water, away from the bank so as to form a narrow passage for the muskrat to enter, and place a trap directly between the rock and the bank.

Frequently one will find a large rock, or old log lying in the stream which is literally covered with muskrat droppings. From one two three traps set around such a muskrat resting place will catch numerous muskrats. If the water is too deep around the resting place, flat stones may be placed in the water around the rock or log, and traps can be set on these flat stones.

Muskrats slides, or paths which are regularly used by muskrats during the Fall while feeding and storing up food, also offer good set locations.

At these slides, as at all other locations, traps should be set level, not on an angle, and should be set so that they are covered by from one to three inches of water.

Another helpful idea is to set all traps in such a manner that the trap spring points upstream. Muskrats usually travel along the banks while going upstream, and are more inclined to swim downstream, away from the banks, while returning to their dens after feeding. The idea is that with the trap spring pointing upstream, there is less likelihood that the released spring will knock the muskrat's foot away from the trap.

There are several changes which

can be made on new traps to improve them. It is first of all a good idea to let new traps lay out in the wet grass for several days and nights so that they will rust just enough to give them a dark red-brown color. Such traps are not as easily noticed by the casual passerby who often develops into a trap thief.

The other important thing is to add extension chains to the short chain with which new traps are equipped. Muskrat traps should be equipped with at least 30-inch chains. Three feet is not too long. I have often wondered why trap manufacturers do not attach longer chains to at lesat some No. 1 traps, for I honestly believe that more muskrat fur is lost each year as a result of short chains, than by any other means.

When using ordinary No. 1 traps for muskrats it is absolutely necessary that the chain be long enough to allow the trapped animal to swim out into deep water for a distance of at least four feet. Five or six feet is even better. A muskrat which is allowed to swim out into the stream for a distance of about five feet, will not be able to again swim back that same distance to shore. It will tire out, and drown in the process, and that is what a good trapper wants. With a short chain a muskrat will be allowed to swim out as far as the chain reaches. which is about three feet, but it will also be able to swim back to shallow water, and the net result is usually a lost muskrat.

The next important point is to properly anchor muskrat traps. Stakes are often difficult to use where stream beds are rocky. Probably the very best anchor would be a stone about one foot or more long, three to four inches wide, and about an inch to two inches thick.

Traps are then fastened to such stones with wire. First however it is necessary to cut slight notches on all four edges of the stone to prevent the wire from slipping off. These notches naturally are made in the center of the stone.

Unless it is necessary to carry such anchors for some distance, do not be afraid to use heavy stones. It is a good idea however to use flat stones rather then round ones. A flat stone will remain in its position in the event of a flood, while a round one might possibly be rolled downstream by the force of flood water.

After a trap has been fastened to such a stone, it may be lifted and swung out into the stream just far enough so that a muskrat will not be able to crawl out onto bare ground for more than a few inches. Care must be taken however that the trap chain is not suspended in the water. If your trap chain is not lying on the ground, there is a possibility that weeds, and other debris will float downstream and cling to the trap chain. When this becomes too heavy it will pull your trap out of its proper position.

After such traps have been set, it is sometimes a good idea to place a small stick out in deep water by merely pushing it into the mud about six inches. This should be done only when and if the water is ten inches or more deep. The trapped muskrat will generally swim out towards this stick and around it until the chain is completely wrapped up, and this assures drowning.

To insure good muskrat pelts they should not be shot. When a live muskrat is found in a trap, it is easily drowned by giving it a light tap on the nose, not on the head. If a fork stick is handy, it is an even better idea to merely hold the muskrat under water until drowned without hitting it.

. . . *The End*

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Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—A. G. Logue, Supervisor, 327 Penn St., Huntingdon. Phone: 872
Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHWEST DIVISION—T. A. Reynolds, Supervisor, 14 W. 1st St., 2nd Floor, S.S., Oil City. Phone: 4-6281
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor. 331 E. Main St., Ligonier. Phone: 519
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

Pennsylvania Official 1951 Open Seasons and Bag Limits

(Federal Regulations on Waterfowl and other Migratory Game Birds may be secured from License Issuing Agents or Game Commission, when available)

Open season includes first and last dates listed, **Sundays excepted**, for game. **The opening hour for bow hunting on October 15, small game on November 1 and buck hunting on December 3 will be 9:00 A. M.** Otherwise, shooting hours daily are 7:00 A. M. to 5:00 P. M. but from July 2 to September 30 inclusive 6:00 A. M. to 7:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	Day	Season	First Day	Last Day
Bobwhite Quail	4	12	Nov. 1	Nov. 17
Hungarian Partridges	2	8	Nov. 1	Nov. 17
Ruffed Grouse	2	6	Nov. 1	Nov. 17
Wild Turkeys (see counties closed below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, males only	2	8	Nov. 1	Nov. 30
Rabbits, Cottontail	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black & Fox (combined)	4	20	Nov. 1	Nov. 30
Squirrels, Red (closed October only)	Unlimited		All months except Oct.	
Hares (Snowshoe Rabbits)	2	6	Dec. 24	Jan. 1, 1952
Raccoons, by individual or hunting party*	5	}	Oct. 15	Feb. 1, 1952
Raccoons, by trapping*	}	40	Oct. 15	Feb. 1, 1952
Woodchucks (Groundhogs)	5	Unlimited	1951: July 2 to Sept. 29 1952: July 1 to Sept. 30	
Grackles (closed October only)	Unlimited		All months except Oct.	
Bears, over one year old, by individual	1	1	Nov. 19	Nov. 24
Bears, as above, by hunting party of three or more	2	2	Nov. 19	Nov. 24
DEER: **Bow and Arrow Season**—Male with two or more points to one antler (requires Hunting License and Special Archery License) by individual	1	1	Oct. 15	Oct. 27
DEER: **Regular Season**—Male with two or more points to one antler, by individual*			Dec. 3	Dec. 13
DEER: **Antlerless Season**—(requires Hunting License and Antlerless Deer License) by individuals*			Dec. 14	Dec. 15
NO OPEN SEASON—(Hen Pheasants, Cub Bears, Elk and Spike Bucks)				
FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected to Sept. 1, '52	
Minks and Otters	Unlimited		Nov. 5	Dec. 15
Muskrats	Unlimited		Dec. 1	Jan. 15, '52
Beavers (traps only), state wide*	2	2	Feb. 15, '52	Mar. 1, '52

SPECIAL REGULATIONS*

POSSESSION AND TRANSPORTATION LIMITS of legally killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

TURKEYS, COUNTIES CLOSED TO HUNTING—Adams, Armstrong, Fayette, Greene, Mercer, Somerset, Venango, Westmoreland and York. In addition, that part of Cambria west of Highway Routes 271 and 56; that part of Cumberland south of U. S. Highway Route No. 11 to the west shore of the Susquehanna River; and that part of Franklin south and east of U. S. Highway Route No. 11 are closed.

RACCOONS—Hunting season begins at 7 A. M. on the first day, and ends at Noon on last day (see instructions below concerning trapping). May be hunted day or night, Sundays excepted. The season limit applies to hunting and trapping combined.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1951 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during bow and arrow season, issued only by Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued by County Treasurers and the Dept. of Revenue, Harrisburg, at a fee of $1.10, and valid **only in the County for which issued.** Farm occupants permitted by law to hunt without a license may also hunt for Antlerless Deer during the Antlerless Season on the same land as for other game. See Digest issued with hunting license for details. Under the law, **no application for an Antlerless Deer License shall be approved, or license issued, to a non-resident prior to November 14, or after December 13, 1951.**

BEAVERS—No trapping at Commission-posted dams. **Non-residents may not trap beavers. One person may set, tend or operate 10 traps only.** Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or water line to facilitate identification without disturbing traps. **Pelts must be tagged within 10 days after season,** and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers and raccoons not to be placed, staked or set before 7 A. M. on the first day of the open seasons. The season on the last date indicated for Trapping closes at 12 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (7-10-51)

REGULATIONS FOR UPLAND GAME FIXED BY PENNA. GAME COMMISSION AT MEETING JULY 5, 1951.

1951 HUNTING LICENSE IS VALID SEPT. 1, 1951 TO AUG. 31, 1952, BOTH DATES INCLUSIVE

PENNSYLVANIA

Game News



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JANUARY 1952

10 CENTS



THE STORY BEHIND THE COVER

THE bugling of a bull elk in the rutting season is a soul-stirring sound, a challenge as wild and defiant as the lofty mountains that echo and re-echo its shrill notes. The majestic bull on the cover painting has heard the bugling of an intruder in his domain and is answering with an invitation to battle Should his rival accept, a savage bout will ensue, the loser discreetly withdrawing from the vicinity and the victor claiming as his spoils both the disputed range and the eligible cows thereon.

The bull elk is generally considered the most regal of all our deer, and in states where an open season is permitted his huge, strikingly symmetrical antlers are eagerly sought by trophy hunters. A large bull will weigh about 700 pounds or more and an average cow approximately 450 pounds.

Native elk were exterminated in Pennsylvania in the late 1800's as a combined result of relentless hunting and the encroachments of civilization and logging. In 1913 fifty elk were brought from Jackson Hole, Wyoming, and released in Clinton and Clearfield counties. Subsequent plantings in other northern counties raised the number of stocked elk to 177. Unfortunately, the scarcity of suitable range and illegal slaughter has held them in check. Although only 98 of these animals were taken during the open seasons beginning in 1923 and ending in 1931, today's elk population in this state probably numbers less than fifty.

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Pennsylvania Game Commission

Commonwealth of Pennsylvania

JOHN S. FINE, GOVERNOR

★

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By
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NEW Year's Day has come and gone! Sirens, bells and the gaiety of 1952's birthday party are swiftly forgotten in the mad rush of business.

Along with the other New Year resolutions, it is not too late to "RESOLVE TO BE A BETTER CONSERVATIONIST."

Our wild birds and animals must be given a chance to live and raise their families. Nature's elements, hunger and predators, exact a toll from January thru December. Game Protectors work to preserve our wildlife the entire year. So let us resolve to take an interest in wildlife and in the perpetuation of the American style of hunting as a clean sport and great outdoor recreation.

Instruct that boy in the safe handling of firearms and instill within him principles of good sportsmanship. Feed game during the months of scarcity. Help control predators and cooperate in the many other worthwhile conservation projects. Join your local sportsmen's club and actively support its aims and objectives. Resolve to learn more about your songbird friends in the Spring. Grow food and cover plants for wildlife and drive carefully to avoid killing it on the highways.

Get acquainted with your hunting host, the farmer. Treat him as you would expect to be treated and you will both benefit through an understanding of each other's problems.

Live the New Year with a determination to be a better sportsman and gunning companion than ever before. Teach the boys to find enjoyment in the good companionship and clean, wholesome sport of the great outdoors, rather than a bulging game bag. Resolve to help others enjoy the great outdoors throughout the year and be ever thankful for Nature's bountiful gifts.

MAY THE

NEW YEAR

BE

A NEW ERA IN CONSERVATION



"A man ought to be drawn and quartered for leg-busting a deer like that!" she said.



Doe Day

By Henry M. Stebbins

I'M telling you, Harry, (he said), I never expected to be shown up by a woman, not out hunting, anyway. You know how it was that season, dry as powder in the woods until the last buck day, and then I couldn't get out to use the four-five inches of first real snow we had. Next came that final day for does only and I was out early with the .270 to make good on the last chance.

You know how some fellows won't hunt does, say they'd as soon shoot a cow tied up for milking. Shucks, after the guns begin to blast they're as wise as the bucks, and I remember my granddad from York state telling how they ate better and how some had to be killed off to balance things up or you'd have a slew of dry does—they found that out there, too. Those oldtimers knew what the game commission is telling us now, and today there's the feed shortage, in some of our forests.

I took the high ground above Alder Run, figuring they'd be working up as the day got warmer, even though they don't seem to go as high as the bucks do, or into as heavy brush, maybe. It was cold! The first ten or fifteen minutes out of the car my scope was so frosted up I couldn't have seen a bon fire through it. No crust, no melting; the snow was perfect, and with it on the ground you could see better through the woods, though the thickets were so loaded that nothing would have showed there. It seemed like a morning to get to a good place and wait, and I was dressed for it. About a mile up from the highway the old lumber road curves out to a sort of outcrop, like,

where you can see 'way down a long, easy slope almost to the brook and that thick growth along it. Oh, you know the place, too?

It was the usual kind of early morning you get in the woods, sun climbing up, oh so slow, only a little breeze and that drifting up, now and then a red squirrel's chatter, and that sniffy, clean air that's always at its best just then. Smokestacks seemed a long way off! Only difference, that particular morning, was now and then you'd hear a shot boom from 'way off or crack from nearer by, half a mile or so, and you felt a sort of tenseness. The last day on deer, sure. Yet there was that feeling of all-aloneness, a nice feeling, for no fresh tracks but mine had punched up the old road. Anyone in there close to me must have come from the other side, Hopkinsville way, or straight up the brook, which no old hand would likely have done, the brush by the creek being so thick to see through and an uphill shot so hard to make. Risky to move in heavy growth, too, for you've got to travel to pretty far places to get away from the fool with a gun—the one that shoots by ear.

I backed up against a monster beech and sat on its root. That made a good rear guard and helped to mask any slight moves I'd make from the eyes of a deer, or a gunner, down below. For half an hour I didn't see a living thing but a flock of crows that sailed over, squalling a little, but not as if they'd spotted me, for I sat as still as a rock. Then—I didn't hear anything, but my eye caught the movement—something slipped in past a tree, far down the slope, and out again. It was a fox, and in the new, strong light he looked as red as fire. His little sharp face pointed my way once but he never caught on, just kept working slowly up, and almost even with me and about thirty yards off he took my scent and hightailed it out of there. You know how, even going like that, they seem to just float along, hardly touch their feet, and in snow, too. I'd been tempted to shoot him and probably could have as he sniffed at logs and stumps, but I'd come to hunt deer and still wanted even a doe.

I thought—well, it's all off now; I'd better move along. Then I decided to stay a while, for I didn't know of a better place. It was a good hunch.

Off upstream from where the fox had come, but still well down the slope. I saw an evergreen bough move once, and not as that little breeze would shift it. I scrooched around for a sitting shot, just in case, and put the rifle to my face. I still kept my finger off the trigger: no manslaughter for me, if you please, by any crook of bad luck. You and I know it pays to be sure.

For an age nothing happened and I was sure that whatever it was had sneaked off into that thicket of jackpines. Then I caught the ears, swivelling back and forth, and no horns. I was afraid to try a head shot at that range, maybe a hundred yards, off balance, and afraid to shift my feet for a steadier sit. I waited.

She didn't turn back into the pines but stepped out so I could see her shoulder. I put the crosshairs and their little dot on it, they settled down a shade better than a third of the way up, and I went into the trigger squeeze.

Well, I'll never know what made her do it, but she jumped just as I was putting the last ounce, I guess, on the trigger and couldn't hold up. The old .270 bellowed and r'ared, cutting off my view for an instant, and she was gone. I felt pretty cheap as I walked over, hoping I'd scored a clean miss instead of wounding one as I did three years ago when you helped me to clean up after that bad shot.

The snow printed the story and I read what I could of it. Bright red blood, no miserable gut shot, anyway, and she was going hard and fast

on three legs. It seemed best to follow her right away. Not much chance that she'd lie down soon and stiffen up, with the woods full of hunters. I started, working along uphill of the track in the hope that I could see farther ahead that way.

I hadn't gone a quarter mile when I head one shot, business like, from some kind of high-power rifle down nearer the brook. I kept on, to be in at the death or as near it as I could.

Over the next shoulder I came to where she'd piled up in an open space. The hunter stood over her, a little skinny guy all in red, which is smart, at that—cap, coat and pants. Then I saw the red hair, a great roll of it between collar and cap, and the face, round, with pointed chin, and eyes—no, not red, too, and you can lay off the kidding—like the sky when it's cleared after a week of rain and grouch. They looked snapping mad, those eyes. I didn't know why.

"So you got my deer, did you? Made a good shot, too."

"A man ought to be drawn and quartered for leg-busting a deer like that!" she said. "And it wasn't a good shot, either; it wasn't twenty-five yards, and broadside. Furthermore, it's my deer. Hunters' law, and a good one. The place to kill a deer is right where he is, not shag him half across the township."

I looked away, for some reason. Her rifle, it was one of the old featherweight Savages, wore a peep rear sight and an ivory front about as big as a china door-handle. Not a bad outfit, at that, in the brush. ".303?" I asked. She just nodded.

"Where'd you learn to shoot?"

Her chin went up a little, defiantly. "I shot on the Burnsville smallbore team, made Expert the last couple of years. Is that too bad?

"Uh-uh." I stooped to look at the doe and she swung the Savage's muzzle away abruptly, as if exasperated. Someone had taught that girl to handle a rifle. It was a nice neck shot, too.

"Dad always told me that was a good place to pin 'em. Doesn't spoil much meat and kills right off if it's fairly well centered." I wondered where her dad was. Over the next ridge, likely as not, plugging along to investigate the shot he must have heard.

A red squirrel sounded off like an alarm clock and I located him on the top of a dead stub over near the brook. "Let's see you take him," I challenged. I wanted to see if she could shoot or if luck had been riding her sights. "Make it a head shot."

"What do you think I am!" she flared. The things they say about red hair might be true. "A ten year old kid, maybe, or dumb enough to drop a bullet over in the next valley? Folks live there. Anyway, he isn't game."

"Well, game or varmint. You aren't so old, anyway."

"I'm of age," she said with dignity. Then, with a letdown that was like a child's, "Just. I voted this fall."

"I see," I said. On that I had to give in. "I guess you and your dad can pack her out to the road. Or can the two of you use some help?"

"I'm alone," she answered, and her eyes flickered away, then back steadily to mine. "He can't get away till noon. I—well, I didn't really expect to get one so soon. I'll just tag her and meet him down at the road. I suppose I ought to dress her first. You could help me with that if you like."

"You mean you were going to tag this doe and then go off and leave her?" Gosh, this kid needed looking after.

"Why not?"

"You wouldn't find more than a smell of her when you got back. That's why."

"Why, no sportsman would do such a thing! There isn't any satisfaction in a deer you haven't shot, yourself, is there?"

"Not to me, but there's plenty besides sportsmen that roam these woods. Some hunt just to get cheap meat. Come on, let's get busy. She's headed a little downhill already."

The girl looked mystified at that but watched as I split the doe up belly and brisket. She wasn't wearing rouge and didn't look as if she ever needed to. I'd noticed how her color would come and go when she got excited, or anything, and after I'd got into the red of the business I glanced over to see how she was taking it. She just seemed interested, like a student in a class he enjoys. Quite a girl!

After that was over I cut a pole and asked if she thought she could take one end of it and still have breath to whistle or sing or talk good and loud while we packed out. "She'll go a little over a hundred, dressed," I explained. "Just right for eating. And you don't carry a deer out of the woods quiet-like unless you're asking for it."

We made it, in stages, stopping to rest every few hundred yards, and talk, too. She was a real nice kid, besides being a knockout for looks. After we reached the highway I stood guard over the doe while she went to a farmhouse to phone. I'd settled down for a wait but stood up when she came back. She liked that.

"Dad'll be here in an hour or so, and I've taken too much of your day already. You've been swell, and I can't thank you enough. We're going to insist that you take a hindquarter of that deer."

"That's nice, and I appreciate it," I said, "but I can't do that. You're a woman, so you know the male ego! I have to shoot my own deer."

She laughed and as I turned to go she caught my sleeve. "That sounds lopsided to me," she said, "after your morning's gone down the spout, looking after a greenhorn woman. Tell you what: my brother'll be back from State for the Christmas vacation and he's a real bush-runner like you. So you come over to Dad's then and we'll have a venison dinner and get-together. I think we'd all have a lot in common. Now you tell me your name and how to reach you."

That was how I met Janet. What? Oh yes, I hunted the rest of the day but didn't see a thing. However, I'm still in favor of doe season.

. . . *The End*



"—hunted the rest of the day but didn't see a thing"



Photos Courtesy Don Woods

The Champion herself, posing with her proud owner, Leonard Sasso, of Pittsburgh, and her handler, Wib Hugus, of Ridgway.

Trebor Duchess Wins National Grouse Championship

By Marc J. DeBerti

ON October 27, Trebor Duchess, a beautiful setter bitch, competed with the nation's top-flight grouse dogs and walked off with the coveted Grand National Grouse championship. Owned by Leonard Sasso, well-known Pittsburgh sportsman, and handled by Wib Hugus, of Ridgway,

Duchess out-performed more than twenty fine dogs, including the famous Sam L's Skyhigh, and Retinescope, a Michigan dog who furnished the stiffest competition of the Marienville event.

Last fall Duchess made a bold bid for a crack at the two-hour finals, but luck was not with her. This year, however, she went bird hunting with blood in her eye and simply would not be denied as she completely outbirded each and every competitor. Her stylish manner left no question in the minds of the judges.

It was no easy victory, and only by virtue of two splendidly handled points in her qualifying hour, plus two more equally faultless finds and plenty of hard running and wide ranging was she able to beat back the determined efforts of three other second series finalists.

In every big field trial some of the dogs will do the unexpected, and the 1951 grouse trial was no exception. For instance, the great champion Sam L's Skyhigh, who had already won five Grouse Championships and was well on the way to another, had a great point far off to the right among some scattered aspens, but when his handler flushed the pair of grouse and shot, Skyhigh moved with the birds. Only a few jumps—but enough to eliminate him for a chance in the finals. Another brilliant setter, Sam L's Hadaway, moved in too close to a trio of feeding grouse and bumped them out. The same thing happened to that sparkling and dainty pointer, Mistress Prettybones. It's all part of the game, however, and the grouse trials require good losers as well as better winners.

The Duchess is not the product of a professional grouse dog trainer. Wib Hugus trains dogs as a hobby, and in doing so not only makes it pay off but also gives heart to those amateur and semi-professional trainers who fear a national championship is beyond their fondest hopes. In 1945 Wib took the famous sire of Trebor Dutchess, Skyrocket's Flashlight, and piloted him to the Pennsylvania National Grouse Championship. Six years later he repeated the trick with Flashlight's most famous daughter.

Thus the 1951 Grand National passed into history and once again a Pennsylvania bred, raised and trained dog wears the coveted crown for another year.

. . . *The End*



Outdoor Reveries



By John J. Day

The Midnight of the Year

THE night wind huffed and puffed at a tremendous rate, producing great crashing chords in the timber on the ridge above the valley stream. As the night wore on the wind-music roared into a smashing midnight maestoso which practically blew the Old Year out of the countryside and freighted in an eager New Year riding the gales of destiny.

The countryman walked out and stood for a moment in the lee of the house while the swaggering gusts bullied December off the calendar and pushed the young January into the picture. Now comes the midnight of the year, low twelve in the Winter woods as the timberlands sleep out the cold dark days before the dawn of another surging Springtime. The Anglo-Saxons called this first month the "wolf month," in allusion to the fact that hunger then made the wolves bold enough to come into their villages.

Even as the two-faced Janus stood at the threshold of the year, the countryman looks back in fond memory across many pleasant trips afield while planning bigger wayside worlds to conquer in the days that lie ahead. He savors once again in mind's eye the "red letter" incidents of a whole year's weekendings in the open.

There was the blistering mid-Summer day he stood knee-deep in fragrant Labrador tea in a lonely northern swamp and found for the first time the odd pitcher plant growing amid the sodden sphabnum. And a rainy day in another bog when he followed along the fresh imprints left by a huge black bear who had preceded him across the barrens.

Chance moments of rare natural beauty etch themselves permanently in the countryman's daybook of memories. He recalls the Spring day he waded the deep drifts of showy trillium and crossed the rise to emerge suddenly in a breath-taking sea of dogwood bloom. And the tiny clump of yellow daffodils which lighted up a corner deep among the hemlocks along a remote trout stream—daffodils planted in that odd corner by flood waters which had pirated the bulbs from the site of a pioneer cabin many miles upstream.

It was during a bright October afternoon that the countryman broke free of the heavy timber and faced the driving wind in an upland pasture. A great bird took wing from the trees to the left, quartered across into the teeth of the gale, and thrilled the hiker with a memorable exhibition of the power and grace of the eagle in flight. Many other delightful wayside moments during the late year passed in review as the countryman looked back.

Now again it is January and a new year of exciting possibilities stretches out ahead. Soon the groundhog will test the sunshine and the skunk cabbage will send up the first trial balloons. Then the red maples and the airy shadbush will stain the somber timberlands with courageous banners. Once more the angler will trace out the cascading mountain streams in the April run-off. Then will come the first waves of the returning birds and the matchless beauty of the Spring flower show.

As he faces the New Year the countryman feels an impatient urge to be up and doing. No man will ever read the complete book of the outdoors. There are many miles of wayside rambling out ahead. Just over the next rise may be a rare orchid, or a new warbler. This is certainly the year of decision as regards a certain lunker of a trout who has so far won every encounter in fair fight.

The countryman waits out the Old Year and hears a newly minted January come on stage amid the din of screaming sirens, wailing whistles and radios blasting tortured versions of Auld Lang Syne. He sits at his writing desk, totting up the many happy days afield during the passing year—relaxing wayside days of simple rural beauty. These halcyon days in the open have long been his escape, his antidote to the anxieties and greeds and downright selfishness which mark the present jungle warfare in business and politics. He makes one firm resolution—to help in any way possible to preserve what little countryside is yet unspoiled, that coming generations may still enjoy their rightful heritage.

Since time immemorial men have looked to the hills for renewed strength. They have shared the healing solace of sun and wind and gentle rain. Instinctively they have turned to the still small voice of the trout stream, or the wind in the hemlocks, when the built-up tensions of their workaday world demand release.

By far the great majority of these good folk cherish the rustic pleasures of the countryside. They take no more than their rightful share of the bounty of stream and upland, and look with scorn on the dynamiter and the poacher. They are careful with campfires and they respect the farmer's fences. With Emerson they have learned to "admire the wood rose and leave it on its stalk."

The countryman ponders these things as the year turns and wonders at the strange quirks in human nature which permit a small minority of thoughtless men to endanger these simple outdoor pleasures. Whence comes this callous breed, breathing death and destruction to everything in range of their gun sights?

Not even the confiding chickadee is safe when these gun goons are loose in the thickets. Eager to show their prowess with the lethal scatter gun, their motto seems to be to blast everything that moves. The farmer finds his fences cut and broken, his pasture rails thrown carelessly aside, and perhaps his bee hives shot-riddled after these "sportsmen" have wallowed their way across his acres.

Small wonder that each Autumn sees a rash of bright new "No Hunting" and "No Trespassing" signs blossoming along roadsides and fencelines. True it is that the beauty of the landscape belongs to him with

eyes to see, but who is to enjoy the hidden pleasures of the distant valley, or the changing panorama of the nearby rocky glen when the sign at the roadside warns "Keep Out"?

The countryman also wonders at the diligence with which ambitious men seem bound and determined to bring the few remaining parcels of unspoiled countryside crashing about their ears. There can be no doubt that the siren song of the dollar sign has caused this havoc. And as usual the sins of the fathers will be visited on their sons' sons, who may never see the great wedges of mighty geese harrowing the sky, or know the gypsy thrill of October hillsides smouldering in the sunlight.

Ravaged valleys, plundered on their sub-surface coal, lie open to the sun and the eroding storms, hideous open wounds testifying to the power of the huge drag-line buckets. Their once mighty trees crumpled like matchwood before even mightier machines and their tiny furred and feathered denizens either died beneath the steel juggernauts or fled elsewhere.

The countryman watches the dam builders throw huge concrete bastions across wild tumultuous gorges, drawning out many square miles of breathless beauty. He sees the lumbermen eagerly hunting out the last proud white oak, to be cut into staves for whiskey barrels. He questions the ultimate results of the current efforts at rain making and insect control. Even his enjoyment of the peaceful night is shattered as huge planes thunder overhead.

While man must progress, the countryman wonders if such destruction of the natural beauty of the countryside is necessary to these advances. Will future generations, burdened by the din and craft of the street, be able to flee to the sky and the woods for hearts-ease? He would have all men in high places, burdened with current world tribulations, meet under the open sky, in the eternal calm of the outdoors. Here, in the midst of broad horizons, all men can truly find themselves.

Resolved to do all in his power to help preserve these simple outdoor pleasures, the countryman faces the New Year, wishing for all fellow hikers, everywhere: "May you have singing bells, and ears to hear them; sure stars and a hand to steer thereby—and may they lead you where you most would go."

Leaden, cheerless skies and dripping thickets greeted me as I set out for my first creekside foray of the young January. The valley stream blustered along at a good clip, completely clear of the encroaching ice which usually hems it in at the turn of the year. The ringing melody of the Carolina wren echoed through the hills and a noisy gang of crows rummaged about in an abandoned stand of corn.

Just off the path stood a dying locust tree which had reached the exact stage of decay required to nourish properly a colony of small bracket fungi. There were hundreds of the brackets climbing the trunk. The effect was as of a miniature sky-scraper apartment house, with awnings open above every window.

I did not stop to look, but the chances are good that many of those "apartments" were really occupied. Lady beetles, and spiders, and other small fry of the Winter woods have learned that these bracket awnings really keep out the weather. I did notice a downy woodpecker at work on this housing project later in the morning. He was busily evicting the tenants, probably for non-payment of rent.

The warm brown mulch of the November woodlands has started its slow return to the loamy soil which gave it birth. Under the combined action of wind and water and decay the tall weed stalks are falling flat to join the leaf mulch in a soggy fer-

ment which will become rich black loam by the time the bloodroot shows its waxy face under the trees.

I splashed through a small swampy area, where the rotting surface of a partially submerged log displayed a good crop of small puffballs, filled with brown "smoke." Ripe puff-balls to the outdoorsman are just like wet paint to the curious. They have to be tested. So I tried out a few, achieved some satisfactory puffs and wandered on.

A pair of trappers had divided a mile stretch of the creek and were busy installing roadblocks to embarrass the valley muskrats. I trailed along while one of these peltrymen picked out the fresh runways and made his sets. He drove the trap stakes straight down into the muck bottom of the runway.

Each trap carried a metal tag with the owner's name and address, but there is a heavy loss through petty thievery. There must be a whole company of trappers working this creek. Their sets surrounded every likely area. I wonder how any muskrat who shows his face during the trapping season can escape the sudden vicious snap of those steel jaws.

During January I keep an eye out for the prairie horned larks, who usually send a sizeable delegation to a flat stretch of upland on a neighboring farm. Leaving the trappers in the creek bottom I drove up to the high country in search of these visitors.

Sure enough, the flock of brownish birds actively feeding along the ground were my old friends the horned larks. They were quite tame, running about and rarely flying more than a few feet when disturbed. Once I scared the whole flock aloft. They swooped around in a wide circle, low above the ground, and came right back to the starting point, landing all about me.

The horned lark is a walker. He doesn't hop around like the sparrows. In a half-inch of light snow his running gait makes him look like he's skidding around on a tiny toboggan. The curious feathered tufts or "horns" give this bird its name. The larks are a cheery attraction in the Winter countryside and well worth acquaintance.

. . . *The End*



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

BOUNTIES ALLOWED ON PREDATORS—NOVEMBER, 1951

Counties	Weasels	Gray Foxes	Red Foxes	Great-Horned Owls	Amount
Adams	5	9	9	1	$ 82.00
Allegheny	1	18	4	1	94.00
Armstrong	29	185	99	4	1,185.00
Beaver	8	7	11	3	95.00
Bedford	4	64	87	7	643.00
Berks	3	70	12	3	346.00
Blair	....	32	39	2	294.00
Bradford	24	190	265	22	1,954.00
Bucks	....	45	17	4	268.00
Butler	4	71	19	5	389.00
Cambria	18	21	23	4	214.00
Cameron	1	52	35	3	364.00
Carbon	4	29	2	...	128.00
Centre	4	88	94	7	767.00
Chester	....	32	4	...	144.00
Clarion	36	177	153	10	1,406.00
Clearfield	13	212	176	7	1,600.00
Clinton	1	110	51	...	645.00
Columbia	4	16	5	6	118.00
Crawford	14	72	196	15	1,161.00
Cumberland	4	6	11	5	97.00
Dauphin	3	40	13	4	235.00
Delaware	....	4	3	...	28.00
Elk	2	132	113	2	992.00
Erie	14	80	313	17	1,671.00
Fayette	5	31	37	1	282.00
Forest	4	80	144	1	905.00
Franklin	1	15	12	1	114.00
Fulton	2	29	16	4	202.00
Greene	1	148	269	7	1,704.00
Huntingdon	2	48	104	9	655.00
Indiana	13	123	23	6	627.00
Jefferson	3	174	149	5	1,320.00
Juniata	2	9	15	4	118.00
Lackawanna	5	32	38	1	290.00
Lancaster	14	60	6	3	293.00
Lawrence	....	20	6	1	109.00
Lebanon	1	28	4	1	134.00
Lehigh	2	99	17	3	481.00
Luzerne	32	74	20	10	458.00
Lycoming	11	128	78	12	895.00
McKean	7	154	255	5	1,668.00
Mercer	1	87	71	2	643.00
Mifflin	5	18	26	2	191.00
Monroe	3	161	52	1	860.00
Montgomery	1	13	3	1	70.00
Montour	....	6	1	...	28.00
Northampton	1	8	7	...	61.00
Northumberland	4	19	2	4	108.00
Perry	6	3	61	4	282.00
Philadelphia	....	1	....	...	4.00
Pike	1	25	5	2	131.00
Potter	4	105	303	3	1,651.00
Schuylkill	20	68	12	2	350.00
Snyder	8	3	46	3	219.00
Somerset	28	120	203	6	1,350.00
Sullivan	2	17	27	1	183.00
Susquehanna	26	72	145	13	959.00
Tioga	7	130	460	12	2,427.00
Union	7	55	25	2	337.00
Venango	13	214	113	9	1,366.00
Warren	9	134	254	6	1,591.00
Washington	....	32	41	2	302.00
Wayne	16	56	47	8	468.00
Westmoreland	11	60	8	3	298.00
Wyoming	11	117	74	2	785.00
York	3	102	76	1	720.00
Total	488	4,640	5,009	295	$ 40,599.00
Number of Claims—1,976					
Total fiscal year to date	1,522	10,724	13,750	865	$103,743.00
Total same period previous fiscal year	1,486	3,977	.....	1,020	$ 21,424.00

WINTER CAFETERIAS

for

WILDLIFE

Game News Educational Pamphlet



Photo by Robert Parlaman



When winters are long and cold, and sleet and ice cover the branches and twigs with their mirrored weight, then the wildlife cupboard is bare.

WINTER CAFETERIAS
for
WILDLIFE

Let's Keep the Larder Full!

If wild birds and animals are to be strong and healthy and reproduce equally vigorous young, they must have an abundance of food. When natural food is scarce, due either to failure in fruit or nut crops, or to deep snows which cover the things which they normally eat, then it is necessary to supply them with emergency rations.

During the ordinary "open" winters as we often refer to them, nearly all species of wildlife can find enough food to sustain them through the intermittent periods of snow and ice, because usually those periods are of short duration. Mother Nature equips them to withstand such normal adversities with hardy constitutions and a lot of stamina. But when the winters are long and cold, and when sleet forms a thick, hard crust over the top of deep snows and coats the branches and the twigs of every living plant with its mirrored weight—then the cupboard is really bare. And it usually stays bare until late in the spring by which time many of Mother Nature's children have passed miserably into oblivion.

None of us wants to see our wildlife die from causes we can prevent. And while it is true that we cannot fortell whether a winter is to be mild or whether it is to be severe, we can and should always prepare for the worst; then if it comes we are ready for it. Let us plan to meet the emergency before it arises.

Many groups and individuals can prepare for and take part in winter feeding campaigns, but they should be planned carefully. Hastily organized excursions into the woods or mountains which terminate in the promiscuous scattering of grain in the "most likely" places will not save much wildlife from starving. Food must be placed where wild birds and animals are known to frequent; furthermore it must be furnished in quantities sufficient to last for several days or weeks.

« HOW TO PLAN »

The Game Commission has always believed in the community sort of program, wherein the local sportsman's club, Boy Scout Troop, Future Farmer Chapter, Bird Club, or other organization interested in caring for wildlife can work together toward a common objective. A winter feeding program lends itself admirably to such a community undertaking. Because sportsmen represent the conservation-minded element they are logically the ones who should take the initiative. Also because of their local forays in search of game, and during their off season predator control programs, they are better able to select sites where feeding can be done most effectively.

But which ever group takes the initiative, it should not be very difficult to effect a liaison with other interested groups and individuals, and decide upon the area or areas to be covered and the material and physical requirements needed to do a good job. The District Game Protector is always ready and willing to furnish advice and can help in other ways. But he is only one individual with a large territory to administer, therefore the mechanics and supervision of local projects must necessarily rest with the sponsors.

« RECOMMENDED FEEDERS »

Lean-to feeding shelters made of cross poles and evergreen boughs, such as were constructed by Scouts and other youth groups in years past, developed an interest in wild birds and animals, but unfortunately did not add a great deal to wildlife's scanty bill of fare. Today more permanent feeders are recommended—wildlife cafeterias built to withstand the elements and to hold substantial quantities of the right kinds of food. These feeders are easily constructed and the building thereof can be made a supplemental project in the all-over program.

Here again the close cooperation of local groups can be solicited to insure maximum results. Sportsmen's clubs for instance could provide materials to be made into feeders by Boy Scouts or in vocational school shops. Such an arrangement brings the adult and youth conservationist much closer together. Together they can, with transportation and food furnished by some good local samaritan, haul them to the chosen sites, making a real outdoor adventure out of the joint undertaking. The possibilities are unlimited depending upon



Photo by Ross Metz

A wilderness "breadline". These wild turkeys await the refilling of a wire basket feeder which they emptied time after time during a severe winter.

the interest and enthusiasm which prevail; they are limited or impossible if either or both are lacking.

In the pages which follow you will find specifications and diagrams of wildlife cafeterias which have proved successful under the most adverse weather conditions. Build them, set them up in well selected places long before snow covers the ground, keep them serviced through the winter and you will be helping wildlife prepare for the worst.

Turkey Feeder—A special kind of feeder is recommended for wild turkeys. No explanation other than the diagram and specifications shown opposite are needed to construct this sturdy, sheltered cafeteria. Because of its size and simple construction it can easily be built on the ground. All you need to take with you are the materials cut to size and the nails to join them.

Wire Basket Feeder—The basket feeder is a good one for turkeys and other birds and squirrels. Simply fashion a cylinder of one and one-half inch mesh poultry wire, fasten it on a tree with the bottom not less than 20 inches from the ground, fill it with ear corn, and you have an inexpensive container that will withstand a lot of usage. Turkeys can peck the corn from the cobs through the wire mesh and squirrels can enter the basket. The bushytails work the cobs around while gnawing at the corn, thus shelling much of the grain which falls to the ground where other wildlife can get it.

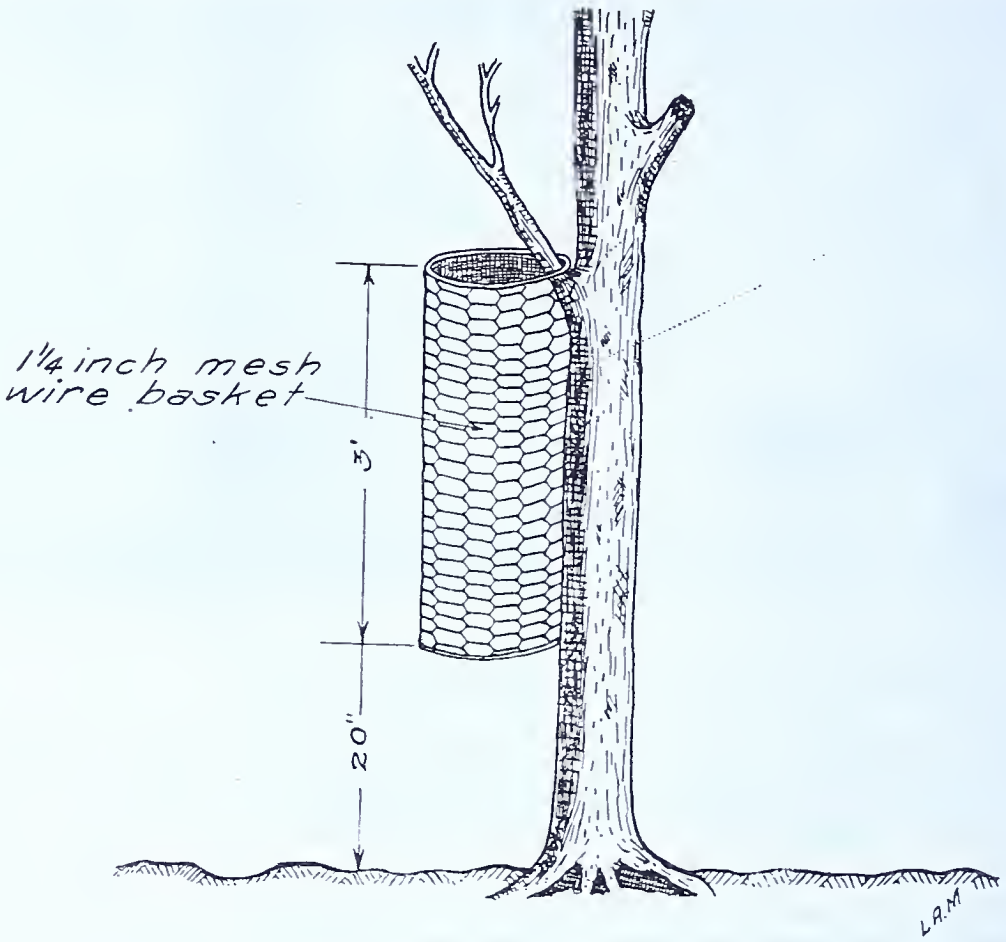


Diagram of the Wire Basket Feeder.

Hopper Shelter and Feeder—This combination shelter and feeder has a fairly large chamber capacity for storage of grain. The shelter, about fourteen feet square, is supported on posts or trees twenty-four to thirty inches above the surface of the ground, the hopper being placed in the center. The lower or chute end of the hopper should rest on a stone or in a shallow box to prevent its sinking into the ground. The frame of the shelter is constructed of four poles four to six inches in diameter securely nailed to trees or posts. It should be substantially constructed so that it will carry a heavy weight of snow. Should it sag under the snow, additional supporting posts can be placed underneath the shelter. Saplings two to four inches in diameter are nailed about one foot apart, checker-board fashion, and a covering of pine or hemlock boughs, or of brush and weeds, is then placed on top, allowing the covering to hang down over the sides, enabling game to leave quickly if molested.

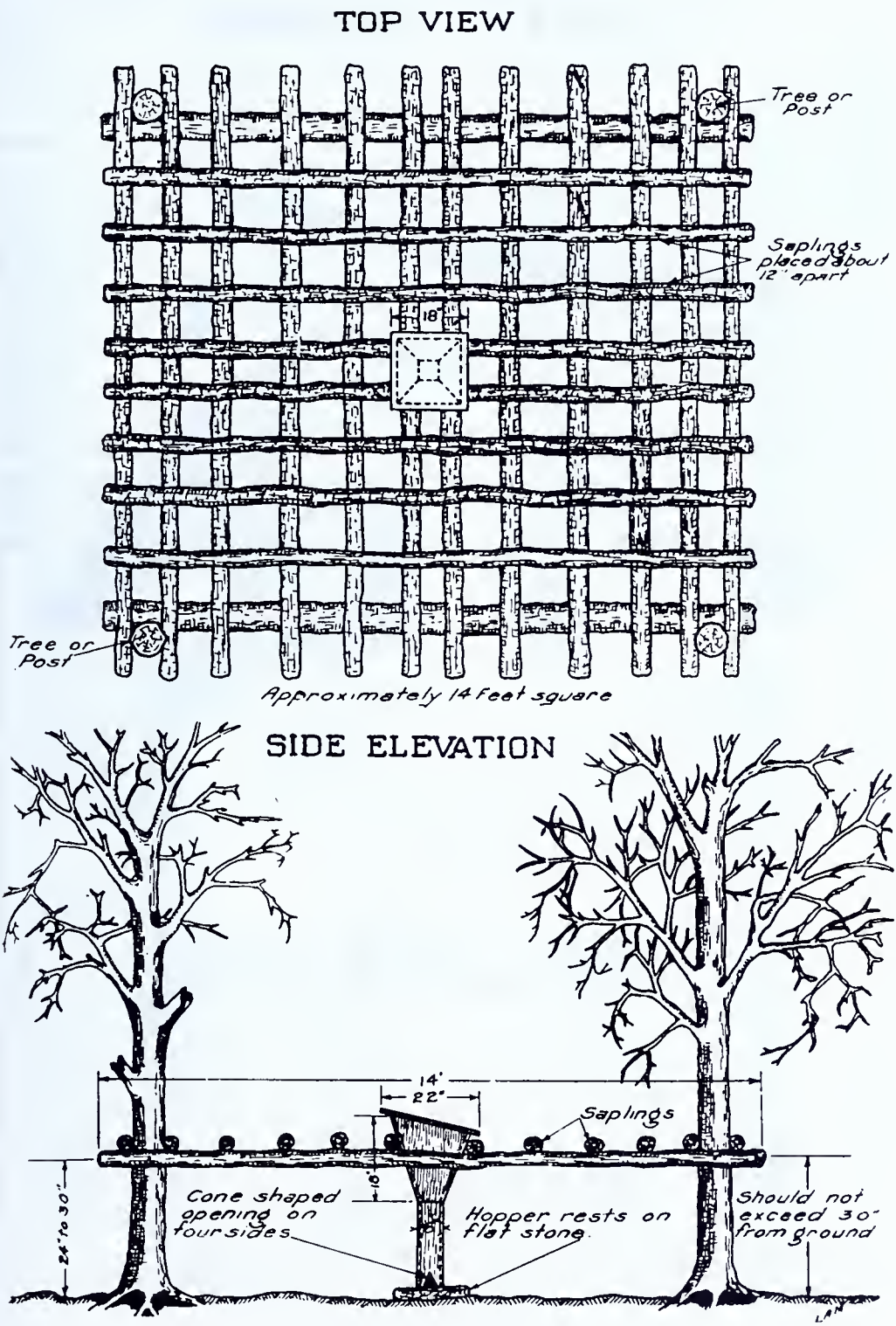
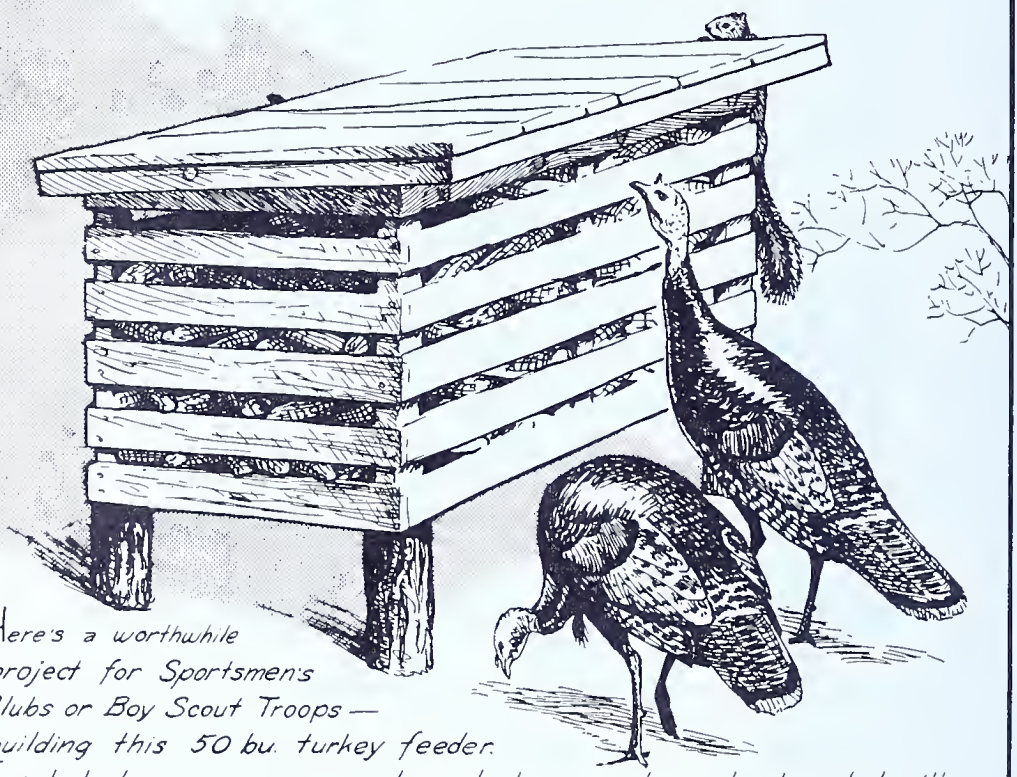


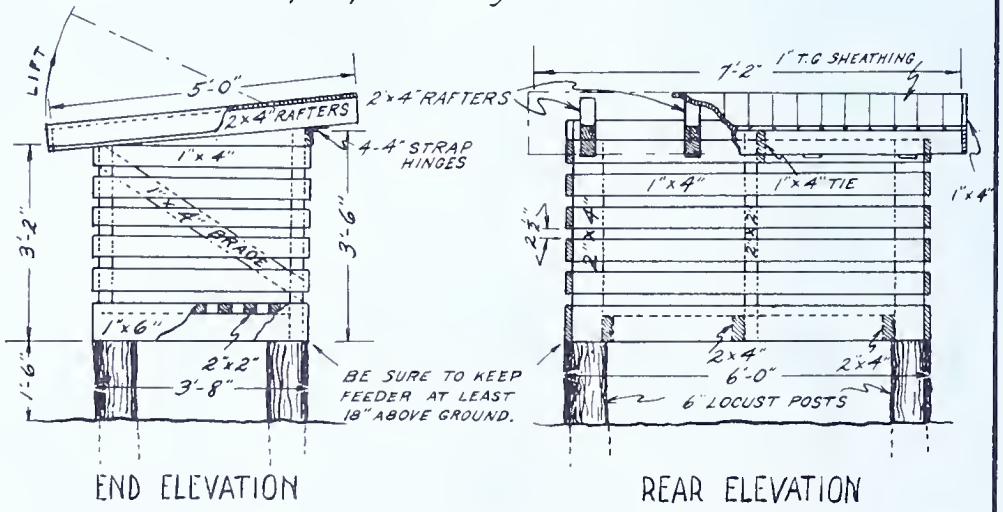
Diagram of the Hopper Shelter and Feeder.

"CORN ON THE COB"

TURKEY FEEDER



Here's a worthwhile project for Sportsmen's Clubs or Boy Scout Troops — building this 50 bu. turkey feeder. Erected along a spring run where turkeys customarily travel it will fill their needs when natural food is hard to find. Below are all the specifications you will need.



Squirrels will go for this in a big way, too!

Ned Smith

The food, either grain or scratch feed, which is placed in the hopper at convenient times, filters out of the four inverted cone-shaped openings at the bottom of the hopper as it is eaten.

Several Game Protectors have used this shelter successfully in feeding small game, some reporting that even grouse, the most timid of game birds, have fed at them. This type is designed with the large low shelter so placed as to keep the grain beyond the reach of deer. The hopper, with suitable modifications, is adaptable for use in many other types of shelters.

Spike Pole Feeder—This turkey and squirrel feeder is made of poles and spikes upon which ears of corn are placed. Spikes are driven into a pole and the heads then cut off, or spikes may be driven through the pole from the bottom up and thus save the labor of cutting off the heads. Two such poles are fastened to opposite sides of two trees from five to seven feet above the ground, the poles being parallel and on the same level, the spikes pointing upward.

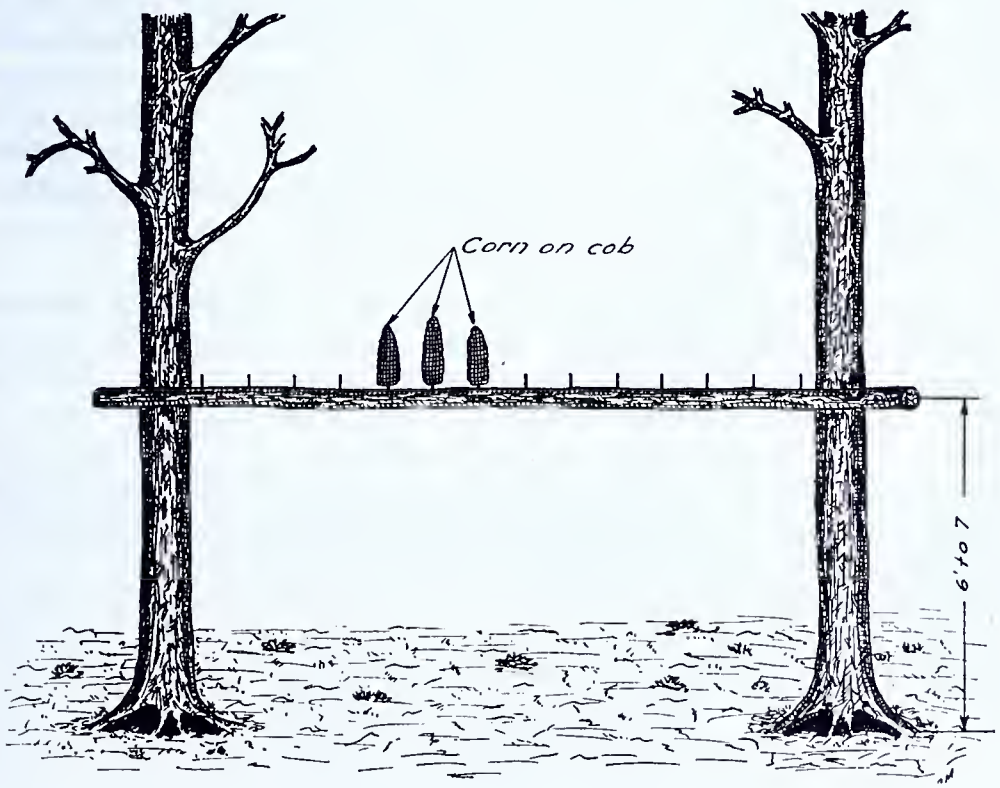


Diagram of the Spike Pole Feeder.

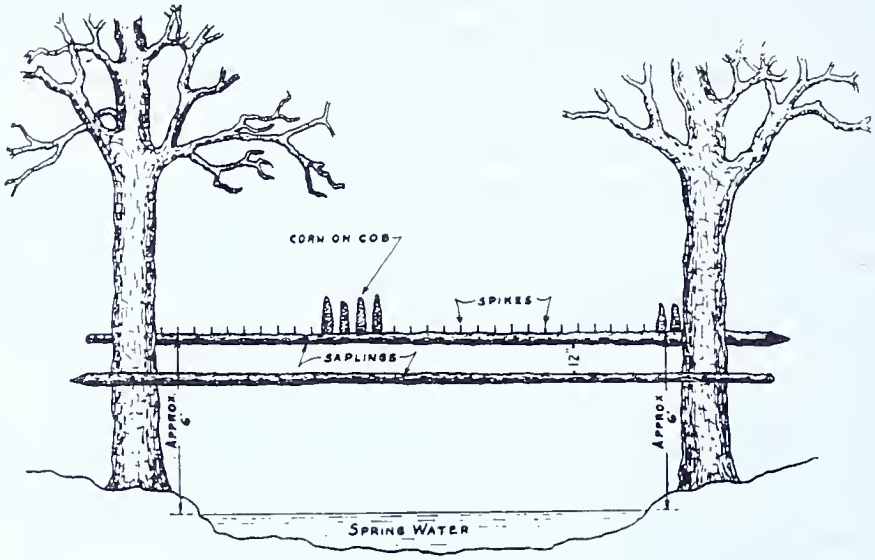


Diagram of the Spring Drain Feeder.

Spring Drain Feeder—This modification of the Spike Pole Feeder can be used effectively at spring drains for feeding wild turkeys and squirrels. Spikes are driven in a pole similar to those described in the Spike Pole Feeder. The pole is then fastened to trees on opposite sides of the spring drain and ears of corn placed on spikes. A second pole without spikes on which the turkeys stand while eating the corn is placed parallel with the first pole but about twelve inches lower.

Where trees are not available stakes may be driven in the ground and cross poles attached to these.

Some of the advantages of the spring drain feeder are that wild turkeys usually follow along spring drains during the severest weather for the purpose of securing grit, drinking water and natural feed. Spring drains are usually open all winter, even during the coldest weather, consequently food placed near such locations is always available for use. Grains of corn dropped from the pole by turkeys or squirrels are readily picked up by grouse and other birds.

The foregoing discussions have dealt mainly with winter cafeterias for forest game such as turkeys, squirrels and grouse. In the Side Hill Shelter which is hereinafter described you will have a food and cover sanctuary which may help you pull a covey of quail through an especially hard winter.

Side Hill Shelter—Here is a shelter under which small game can be fed. Fasten a good-sized pole horizontally between two trees three to four feet above the ground, ther lay

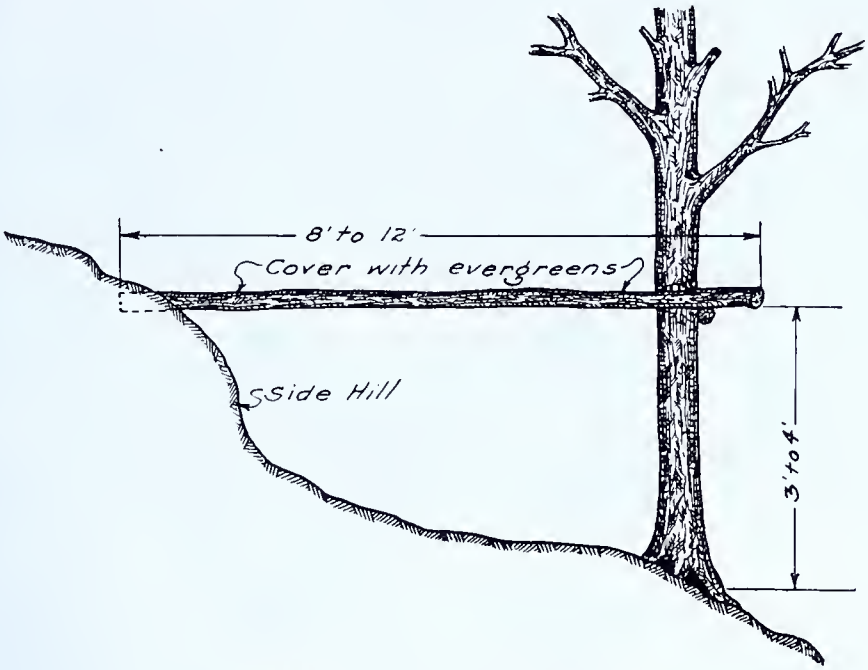


Diagram of the Side Hill Shelter.

a series of parallel smaller poles from the horizontal pole to the higher ground in rear of the two trees. By covering these poles with hemlock or pine branches, or with brush and weeds, a practical and effective shelter is provided, three sides of which are open.

The frame of a shelter such as this may be covered with building or roofing paper, then hemlock or pine branches placed over the paper. The paper will last throughout the winter and will help to protect the grain from water and snow. Under this shelter corn or other grain, or scratch feed, may be placed as required. This type should prove very satisfactory for feeding grouse or quail at accessible places where storage of grain is unnecessary.



The Side Hill Shelter is an all-purpose Sanctuary which allows easy escape from predators.

Since the disastrous loss of the severe winter of 1935-36, the restoration of the bobwhite quail has been one of the Game Commission's foremost considerations. It is propagating a high quality bird at its quail farm, and it is encouraging the landowner to put the "welcome" mat out for these splendid little game birds by providing more food and cover for them. But there are other ways of helping repopulate the countryside with bobwhites. Throw a few corn shocks along a fence corner where the birds can seek shelter during heavy snow storms. More than one covey has been buried in a blizzard and never found until the thaws of spring. Mute testimony that this can and did happen is shown in the accompanying photograph. These simple shelters also are good feeding places, which brings up another important question, namely What to Feed.

Paul Howry, Shiremanstown sportsman, with two bobwhites from a covey he shovelled out of a 6 ft. snowdrift following a heavy blizzard.





This old sheltered fence corner furnished a safe retreat for these bobwhites all winter.

« DESIRABLE FOODS »

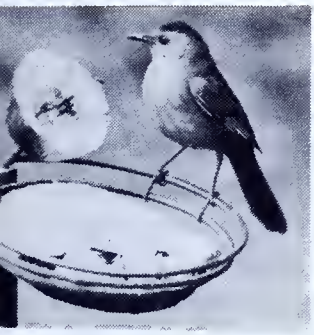
Too often ignorance of nutritive content leads many persons to simply purchase a lot of grain—any kind of grain—and distribute it. They can do it that way but it just won't work. Take the quail for example. Bobwhite needs a lot of Vitamin A, and if it is lacking he is out of luck. Research has proved that if a quail with a good storage of Vitamin A is put on a diet high in every nutritive element except Vitamin A, the little fellow will exhaust its stored supply and die within a few weeks. Thus when the ground is covered with snow and natural foods become scarce and hard to obtain, the quail begins to deplete its store of Vitamin A. If he can get some wild foods, particularly green plants in and around open spring ditches, weed seeds, and bits of other forage material, bobwhite has a fair chance of living through the winter. However, if these same birds are befriended by the farmer or sportsman who carries certain kinds of grain to them, they may die within ten days or two weeks unless they are able to obtain other wild food materials which will supply the much needed Vitamin.

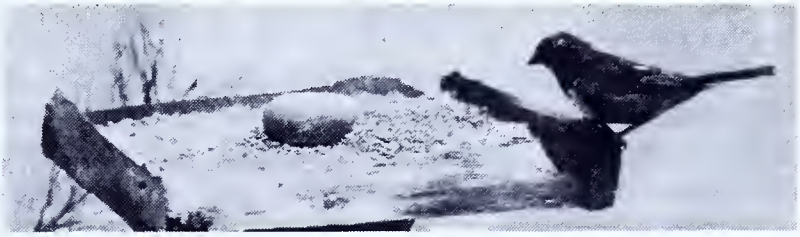
Wheat, buckwheat, oats, rye, barley, white corn and most other grains except yellow corn and Wilson black soybeans are deficient in Vitamin A. Quail fed nothing but wheat when other food is beneath a heavy blanket of snow may die within a short time. The Game Commission recommends that those persons who wish to feed the bobwhites in winter would supply them with whole or cracked YELLOW corn rather than wheat, buckwheat or other grains. Even mixed scratch grains are not recommended because the quail, like children, do not always know what is good for them and they might easily pick out the grains which have little or no vitamin and leave the yellow corn. Whole corn, alone, will keep quail alive for months. Throw a good supply under that temporary shelter to provide for bobwhite and his family.

A good way for the landowner to befriend the wildlife on his farm in winter is to leave a few rows of unhusked corn stand alongside a woodlot or other cover as a food reservoir during the cold months. Pheasants, quail, squirrels and other field and forest creatures will feed upon it.

Chickadee at wire mesh basket filled with suet.







« SONGBIRD CAFETERIAS »

Feeding shelves for birds, whether the window-sill or weather vane type, are easily and economically constructed.* Winter feeding shelves are both practical and desirable. Birds soon recognize these outdoor offerings as inexhaustible sources of supply and as a result you may often have your feeding counter completely covered by hungry feathered guests.

What to place on the feeding counter? Bread crumbs and table scraps are readily eaten. Sunflower seed is a great favorite, and suet should always be present for your winter bird visitors. Suet can be placed in a wire mesh container and hung on a tree, or it can be pushed into holes bored in a section of old limb or 2″ x 2″ and fastened to a tree.

Many species of birds are fond of peanut butter and hemp seed is relished by chickadees. Canary bird seed is enjoyed by some species but it is not essential if other foods are available. Most winter birds will find cracked corn, wheat, buckwheat, millet, or other native grains very desirable, the smaller seed-eating birds preferring the more finely ground chick feed mixture.

Cracked black walnuts, hickory nuts and others are highly prized by woodpeckers, chickadees, Carolina wrens and tufted titmice. Do not extract the nut meat. The birds like to do this themselves. Peanuts, unsalted and preferably unroasted are very good and lots of bird enthusiasts suspend them from a bough or window sash by wire or string.

Half a coconut shell suspended by wires from a fairly high branch also makes a very good natural feeding receptacle. "Birdstone" which is made of melted suet mixed with seeds, grit, nuts and bits of bone is a fine winter food. It can be poured on twigs on the feeding shelf or you can paint it on the bark of trees.

Various green vegetables, apples, hard boiled eggs, fresh boiled potatoes and specially made meal cakes also are good winter foods.

*Write for our pamphlet "How to Attract Birds."

« PREDATORS A MENACE »

Predatory birds and animals must be considered when planning a winter feeding program. Where beneficial wildlife congregates, there also will the undesirables be found. Provisions should always be made when building artificial shelters for the easy escape of game animals or birds so that they will not be trapped and caught within the shelter. Never less than two entrances or exits should be provided. If predators become too numerous around a feeding station, they must be trapped or the station discontinued. If either or both of these remedial measures are not taken, then gradually the beneficial wildlife will be "discontinued" in the "tummies" of the fox, the weasel, the mink or the wildcat.

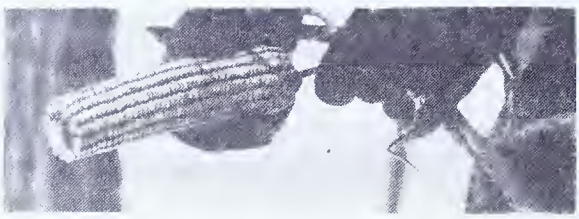
« OTHER VALUES »

Winter feeding programs have other values both for those who participate in these humanitarian and recreational undertakings and for the Game Commission.

Winter feeding stations offer the photographer ideal opportunities to get pictures of wildlife; they offer the nature lover an opportunity to observe it. And if the observations of these persons are made available to the Commission in the form of occasional reports, either direct to Harrisburg, or through the District Game Protector, they will provide a spot check and rough census on wild birds and animals through the winter and spring. These checks on wild turkeys and quail are especially desirable.

The Commission would consider it splendid cooperation if the trapper, and the off-season gunner of unprotected predatory birds and animals, would report turkeys or grouse observed; if the farmer and the rural mail carrier, even the farmer's children on their walks to school, would make note of and report coveys of quail which they see. It will help and provide a diversion for the individual who may otherwise miss a sight of Nature's children—and it will help the Commission to keep informed of wildlife population trends.—Text and format by Leo A. Luttringer, Jr.

KEEP THE



LARDER FULL

Crawford County

Land of the Pymatuning

Seventeenth in a Series

Note: This center sheet can be removed if desired, without damaging the magazine, by loosening the two center staples.

Land Area

The county contains 354,880 acres, of which 107,776 acres are forested and 247,104 acres are in non-forested areas. There are 482,905 acres in farms. Publicly owned land comprises 30,274 acres and includes 14,012 acres of State Game Lands and 15,474 acres of State Forests.

Topography

The eastern portion of the county is made up of rolling hills while the western part is largely level farming country. The county is drained by the Shenango River, French, Oil, Woodcock, Cussewago Creeks and Conneaut Outlet. It contains both the largest natural lake in the state, Conneaut Lake, and the state's largest artificial lake, Pymatuning Reservoir.

Transportation

Railroad transportation is furnished by the Pennsylvania, the Bessemer & Lake Erie, and the New York Central. The 28th Division Highway (U. S. Route 322), the Perry Highway (U. S. 19) and other important routes traverse the county, which has 723 miles of improved State highways.

District Game Protectors

Raymond A. Sickles, Linesville, has jurisdiction over Beaver, Spring, Conneaut, Summerhill, Pine, Summit, North Shenango, Sadsbury, West Shenango, Fallowfield, and East Fallowfield townships.

George W. Keppler, 255 Locust St., Meadville, has jurisdiction over Cussewago, Venango, Cambridge, Rockdale, Hayfield, Woodcock, Richmond, Vernon, East Mead, West Mead, Union Greenwood, Fairfield, and East Fairfield townships.

Samuel B. Shade, R. D. No. 1, Titusville, has jurisdiction over Bloomfield, Sparta, Athens, Rome, Steuben, Troy. Oil Creek, Randolph and Wayne townships.

Fish Warden

S. Carlyle Sheldon, Conneautville, Crawford County.

Agriculture

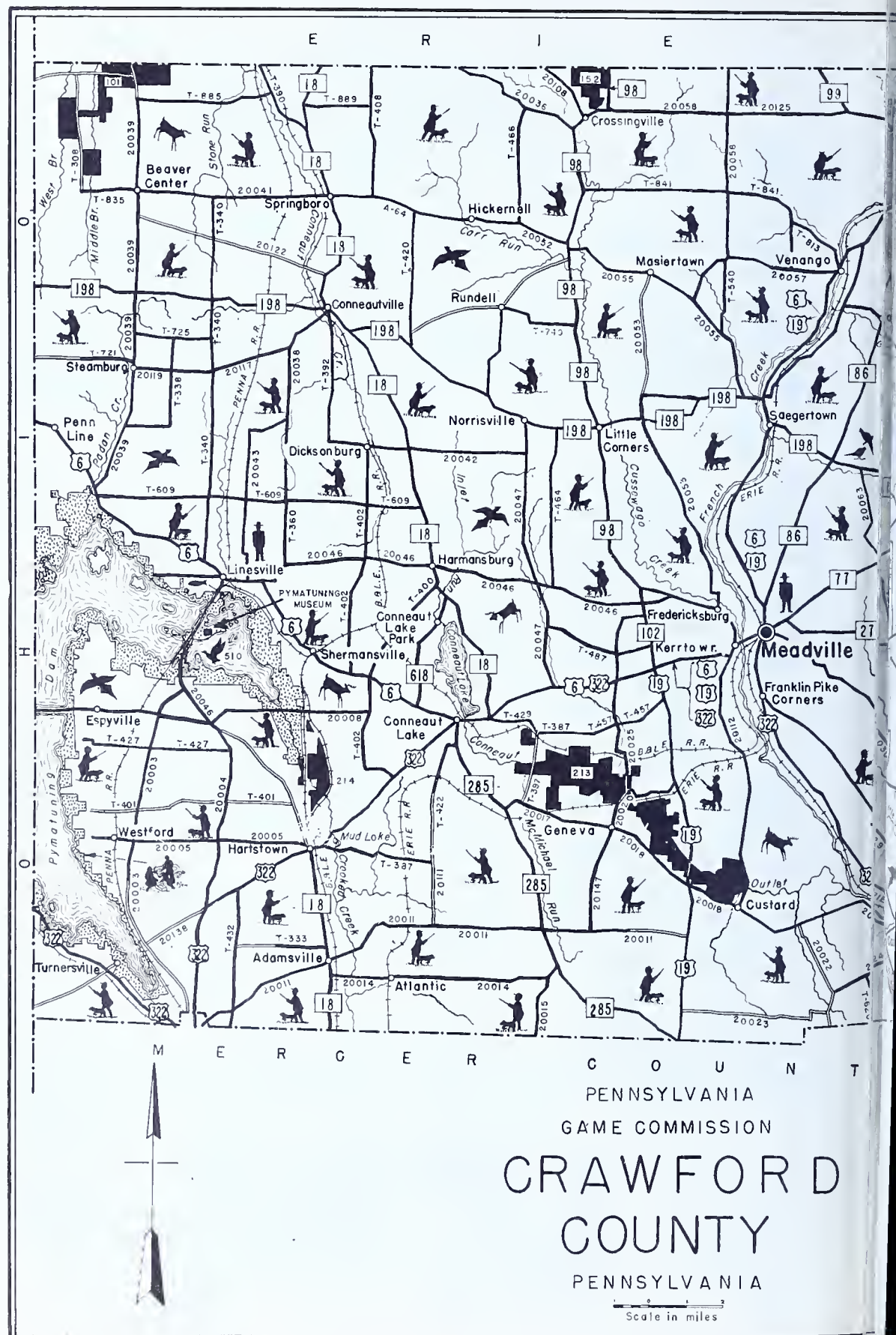
Much of the county is well adapted to agriculture and hay, oats and buckwheat are important crops. The milk from many of the dairy farms is used in the manufacture of condensed and evaporated milk of a nationally advertised brand.

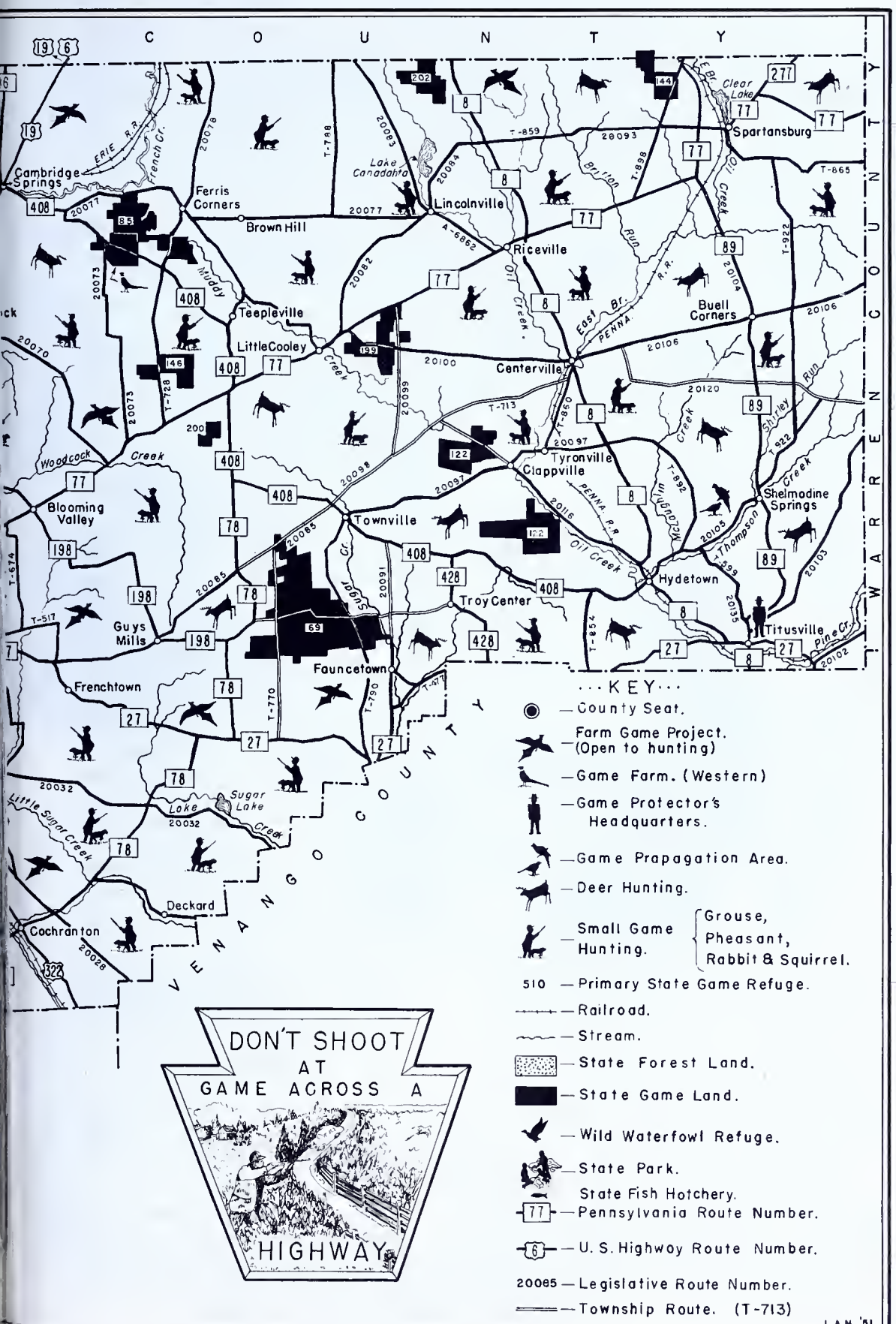
Industry

Crawford county's chief industry is the metal and metal products industry. Next in importance are the textile and textile products, food and kindred products, and chemical and allied products. In Meadville the manufacture of hookless slide fasteners is so important an industry that even during the depression years of the early 1930's the city prospered. This city is now the world's largest producer of slide fasteners. Titusville is the site of a number of plants where lubricating oils and greases are manufactured.

Historic

Crawford county was separated


E R I E
O H I O
M E R C E R C O U N T
Beaver Center
Springboro
Hickernell
Crossingville
Conneautville
Rundell
Masiertown
Venango
Steamburg
Penn Line
Dicksonburg
Norrisville
Little Corners
Saegertown
Linesville
Harmansburg
Fredericksburg
Meadville
Franklin Pike Corners
Kerrtown
Shermansville
Conneaut Lake Park
Conneaut Lake
Espyville
Westford
Hartstown
Mud Lake
Geneva
Custard
Outlet
Adamsville
Turnersville
Atlantic
PYMATUNING MUSEUM
Pymatuning Dam
Stone Run
West Br.
Middle Br.
Conneaut Cr.
Podan Cr.
Corry Run
Mosquito Creek
French Creek
Inlet
Outlet
Conneaut Outlet
Mud Lake
Crooked Creek
Mitchell Run
PENNA R.R.
ERIE R.R.
B.&L.E. R.R.
PYMATUNING R.R.
PENNSYLVANIA
GAME COMMISSION
CRAWFORD
COUNTY
PENNSYLVANIA
Scale in miles


C O U N T Y
W A R R E N C O U N T Y
V E N A N G O C O U N T Y
Cambridge Springs
Ferris Corners
Brown Hill
Lincolnville
Riceville
Spartansburg
Clear Lake
Lake Canadahta
Teepleville
Little Cooley
Centerville
Buell Corners
Tyronville
Clappville
Townville
Shelmodine Springs
Hydetown
Titusville
Blooming Valley
Guys Mills
Troy Center
Fauncetown
Frenchtown
Deckard
Cochranton
Sugar Lake
Little Sugar Creek
Muddy Creek
Woodcock Creek
Oil Creek
East Br. French Cr.
Brion Run
Shirley Run
Thompson Run
Pine Cr.
ERIE R.R.
PENNA. R.R.
DON'T SHOOT AT GAME ACROSS A HIGHWAY
...KEY...
— County Seat.
— Farm Game Project. (Open to hunting)
— Game Farm. (Western)
— Game Protector's Headquarters.
— Game Propagation Area.
— Deer Hunting.
— Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
510 — Primary State Game Refuge.
— Railroad.
— Stream.
— State Forest Land.
— State Game Land.
— Wild Waterfowl Refuge.
— State Park.
State Fish Hotchery.
— Pennsylvania Route Number.
— U. S. Highwoy Route Number.
20065 — Legislative Route Number.
— Township Route. (T-713)
L.A.M. '51

from Allegheny county in 1800. Together with Mercer county and parts of others it was set aside as lands to be taken up by Revolutionary soldiers and were known as "donation lands."

Less than a mile from the city of Titusville the first successful oil well was brought in by Edwin L. Drake, August 27, 1859. The greasy scum on Oil Creek had been used by the Indians to mix their war paints and had been bottled and sold by enterprising settlers as "Seneca Oil" for which they claimed certain medicinal properties. Drake's well opened up an industry which has revolutionized almost every other major industry.

Recreation—Hunting

Crawford's hunting is chiefly of the small game variety. Rabbit hunting is very good and some excellent ringneck hunting can be found in the county. Deer are found in fair quantities in the small woodlots scattered throughout the county, and some of the state's best waterfowl hunting is found there.

The county's most important project for game conservation is the Pymatuning Reservoir and the Pymatuning Refuge. The latter is an area of water and marsh lands closed to hunting by the Pennsylvania Game Commission. It is officially known as Refuge No. 510 and comprises some 3,700 acres. Serving a two-fold purpose, the refuge furnishes a nesting and resting place for all sorts of waterfowl and migratory birds and, through the facilities of the museum located there offers many educational opportunities to the interested student of wildlife. Nearby marsh and water area furnish excellent waterfowl shooting in the open seasons.

State Game Lands in the county, and their areas follow: Number 101, comprising 1448 acres, Number 152, comprising 499 acres, Number 214, comprising 557 acres, Number 213, comprising 3,031 acres, Number 85, comprising 1,068 acres, Number 146, comprising 496 acres, Number 200, comprising 154 acres, Number 69, comprising 3,416 acres, Number 202, comprising 506 acres, Number 199, comprising 704 acres, Number 122, comprising 1,709 acres, and Number 144, comprising 422 acres. The Western Game Farm, where the Commission hatches and rears ringnecks for distribution, occupies 521.6 acres.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stock waters) include: Caldwell Creek, brown trout, Titusville, 2 mi.; Little Conneautee Creek, brown and rainbow trout, Edinboro, 1 mi.; Gravel Run, brown trout, Woodcock, 3 mi.; McLaughlin Run, brook trout, Hydetown, 3 mi.; Muddy Creek, brown and rainbow trout, Little Cooley, 6 mi.; Pine Creek, brown trout, Titusville, 3 mi.; Stearns Run, brook trout, Titusville, 3 mi.; Sugar Creek, brown and rainbow trout, Townville, 4 mi.; Sugar Creek, E. Br., brook and rainbow trout, Diamond, 3 mi.; Little Sugar Creek, brown and rainbow trout, Cochranton, 6 mi.; Thompson Run, brown trout, Hydetown, 4 mi.; Woodcock Creek, brown and rainbow trout, Seagertown, 10 mi.; Oil Creek, black bass, Centerville, 9 mi.; Canadohta Lake, black bass, Lincolnville, 169 A.; Clear Lake, black bass, Spartansburg, 250 A.; Conneaut Creek, black bass, Conneautville, 10 mi.; Conneaut Lake, black bass, Conneaut Lake 925 A.; Cussewago Creek, black bass, Little Corners, 8 mi.; Drakes Dam, black bass, Cambridge Springs, 100 A.; French Creek, black bass, Cambridge Springs, 40 mi.; Pymatuning Resv., black bass, Jamestown, 5,000 A.; Sugar Lake, black bass, Sugar Lake, 90 A.

State Recreational Areas

Pymatuning State Park, located at the southern extremity of the reservoir, offers boating, fishing, camping, picnicking and swimming.



Outdoor Kids

By Hal H. Harrison

FOR so many people, winter is a time of sadness a time of imprisonment indoors, with only the long wait for spring ahead.

But to those who have learned, as Billy and Jane have learned, that winter offers some very special things out of doors, it is an interesting time of year. Like all normal youngsters, Billy and Jane enjoy sledding, ice skating, skiiing, snowball battles, and other winter sports. But they have learned, too, that there are many exciting adventures out of doors in winter . . . for those who have eyes to see and ears to hear.

Snow itself is strange and wonderful. It is frozen vapor, and snow crystals are six-sided. No two snow flakes have ever been found to be exactly alike. Why are they six-sided? Why are they crystals and not tiny balls of ice? How long does it take to make a snowflake, and are the designs different because of the way in which they are formed? These and many more questions about snow still puzzle us.

Sometimes when Billy and Jane walk in the snow they make no noise at all. At other times, when it is very cold, the snow crunches and creaks beneath their boots. Why? Well, when snow is near melting point, it can be crushed together. When it is very cold, the snow crystals refuse to flow together, and they make a noise when they are moved by the weight of one's foot.

It is true, of course, that many wild creatures are spending the winter hibernating or are far away in a warmer climate, still there are many others that are up and doing on a winter day.

Not all birds go south. And that is something that has always puzzled Billy and Jane. Why do a few birds stay in the north when most of them leave long before winter approaches? How does a frail little thing like a chickadee withstand winter's blasts when other stronger birds must leave?

Insects are encased in cocoons, or they may even spend the cold weather in eggs, while those that have already become adults sometimes spend the winter in sheltered places. Billy and Jane often hunt for these cocoons and take them indoors. With the heat of the house or the classroom to help, they hatch early into beautiful moths or butterflies.

Many mammals (animals whose young are breast-fed) are awake all winter, constantly searching for food. Foxes, rabbits, gray squirrels, deer mice, weasels, muskrats. and deer are just a few. Billy and Jane have fun following the tracks of some of these in the snow.

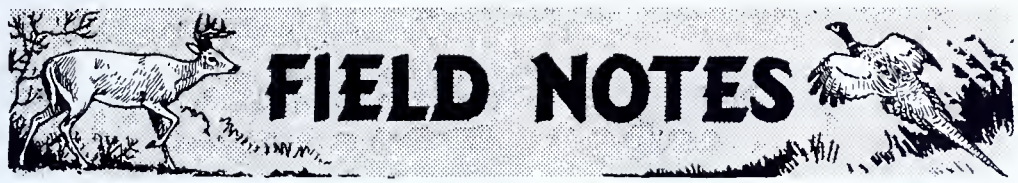
Certain mammals hibernate only part of the time. Skunks, raccoons, and opossums sleep in the coldest weather, but they may move around on warm days or nights.

In Pennsylvania, where most trees and plants lose their leaves in the fall, folks do not usually think of green things in the winter. Yet, there is much green out of doors the year round. The evergreen trees and shrubs are easiest to see, but there are many others. Ground pine (club mosses) and many ferns remain green.

So these are the things for which Billy and Jane look throughout the winter. They will find white-footed mice nesting in last summer's bird's nest; cocoons of the Cecropia moth attached with silken threads to twigs; cottontail rabbit tracks made while they played in the snow on a cold moonlight night; gray squirrels scampering up trees, to disappear inside their huge nests of leaves; icicles hanging like great swords where the afternoon sun has melted the snow; blue jays screaming through the quiet woods and crows cawing from the snow-covered fields; cardinals cracking sunflower seeds on the feeding self outside the window; tree buds lacquered for protection against freezing weather; and clusters of seed-filled cones waving on hemlock branches.

Nothing to see in winter? Billy and Jane can show you many things.

. . . *The End*



Wild Guesses

FORT LOUDON—I had a beautiful nine point buck killed by a milk truck on September 25, 1951. I showed the deer to several sportsmen and asked for an estimate of the weight. They estimated anywhere from 140 to 250 lbs. The deer was weighed hog dressed at the County Home and weighed 178 lbs. District Game Protector Edward W. Campbell, Fort Loudon.

Eeeek!

CLINTON—I received report that a woman from Steubenville, Ohio, while driving south on Route 18, was attacked by a large bird. I checked with a farmer nearby and he told me that she abandoned her car and came



into his place to report it. The farmer told me that she was badly scared. Then the woman later drove four miles to a restaurant and ask two employees to accompany her back to the scene to see if they could locate the bird and shoot it. She then told one of the men to go back to the restaurant and call the radio station in Steubenville to announce that a large bird had attacked her car in Pennsylvania (this he wouldn't do). I found out later that the bird was not an eagle but a turkey vulture, which had dropped down to get two rabbits which had been killed on the highway. District Game Protector D. W. Heacox, Clinton.

Hand-fed Deer

LEHIGHTON—Two Palmerton sportsmen were spotting deer one evening in Penn Forest Township. Having located a young animal in the light, one of the men tossed an apple at the animal in an attempt to chase it back from along the highway. Instead of the animal running, it slowly walked over, picked up the apple and ate it. The same procedure continued until the apples were exhausted. District Game Protector Elder D. Ramsey, Lehighton.

The "Thing"

READING—Deputy Baldwin brought me a specimen of an animal that I had never seen. The hair looked like groundhog, the tail like a 'possum and the teeth looked like beaver, plus webbed hind feet. A Mr. Eager had found the animal in his garage after the dogs had killed it. Dr. Earl L. Poole, at the Reading Museum soon had us straight and told us that it was a South American Nutria or Coypu, sometimes called a beaver-rat. We finally learned that the animal came from a farm just a half mile from the place it was killed. This man is a breeder of Nutria and was not aware that the animal had escaped. District Game Protector J. A. Leiendecker, Reading.



I Prefer Bugs

NORTH WARREN—During September 1951, I received a call from Mr. Gerald Rickerson, of North Warren, who wanted to report a dead wild turkey that he had at his place. Mr. Rickerson went on to say that his son Kenneth had just returned from New Jersey and that late in the afternoon while driving between Bald Eagle and Phillipsburg, a wild turkey had flown into the windshield of his car. The impact broke the windshield and killed the turkey. District Game Protector David R. Titus, Warren.

County No Longer Bare of Bears

WATSONTOWN — Northumberland County can now be classed as *a* bear county and Deputy Yocum of Watsontown, who reported the incident, has a picture to back him up. It seems a Watsontown man was training his dogs along the West Branch of the Susquehanna River, between Dewart and Watsontown, when his dogs treed Mr. Bear. When Marlin Thomas of Watsontown heard of the incident he headed for the spot and took a picture, which will prove to posterity that Northumberland was a bear county, with the emphasis on the A. District Game Protector Clyde E. Laubach, Elysburg.

Cat Buffaloes Fox

VANDERGRIFT—As Deputy Milan Martinisko, R. D. No. 1, Vandergrift, Pa. was coming from school at the Leechburg Airport he saw a house cat walking along the side of the road. About that time a gray fox jumped out from the side of the road and the cat and the fox had quite a little scrap for a few minutes. Just as suddenly as the fox appeared he retreated in the same manner. District Game Protector H. E. Greenwald, Apollo.

Bees By the Yard

MEYERSDALE—Merle Larue reported that while out training his beagle dogs near Meyersdale, he found a bee tree. About 20 ft. from the ground where the bees were entering the tree was a blacksnake catching the bees. The snake was knocked from the tree and killed, when opened up, it was full of the honey bees. District Game Protector E. W. Cox, Somerset.

Whitejay?

STROUDSBURG—I wish to report seeing an albino bluejay on State Game Lands 38 this month. The bird was all white and was with five other normal bluejays. I got to within ten feet of the bird to be sure my eyes were not fooling me and have seen the odd bird several times since the first day. District Game Protector John H. Doebling, Stroudsburg.



Crows Down—Ducks Up

ELYSBURG—The recent crow control work on the Susquehanna River appears to have paid off. There is a definite decrease in the crow population and I have talked to a number of farmers who were wondering what happened to the crows. I believe in the past we have had quite a bit of depradation to the nesting ducks by the crows and this year we appear to have a banner crop of local ducks. Rivermen say this is the best nesting year they have seen for a good many years. District Game Protector Clyde E. Laubach, Elysburg.



Instrument Flying Not For Cormorants

WYALUSING—Had a call from Mr. Charles Wells, Wyalusing, R. D., on the night of October 27. Claims he had been traveling over the Wyalusing Bridge, across the Susquehanna River, and about half way across he had noticed some sort of large bird lying on its back with feet in air, paddling away. He had stopped the car and picked up the bird, noting that it was partially stunned and bleeding.

Apparently the bird had collided into the bridge structure in its flight along the river. Mr. Wells had taken the bird home and held it overnight, nursing it along. The following morning I had called on Mr. Wells and found the bird, a cormorant, was in good condition. The bird was then released and able to travel.

This was the first report I have had, within a few years, of any cormorants in this area. No doubt his compass was in working order but he was flying a little too low. District Game Protector Norbert J. Molski, Wyalusing.

Belligerent Buck

COLLEY—On October 25, Deputy Roy Adams, his brother, and one other man, all from Colley, went coon hunting near the Adam's home. As they hunted along a small stream the dog disappeared a few minutes and suddenly they heard a loud commotion a short distance away along the stream. Deputy Adams was carrying a single barrel shotgun (unloaded) and a five cell flashlight. This commotion sounded as if the dog was yelping and crying as if in pain. Deputy Adams hastened to the spot and there he found a spike buck deer mauling his dog, along the creek. He shouted and the buck retreated a few feet and stood facing him. He got hold of the dog and put him behind him and the dog retreated rapidly. This buck was acting very peculiar and his face, neck and throat were covered with white froth. Deputy Adams started to back away and the buck charged him and just missed him several times with his antlers as Adams beat him over the head with the empty shotgun in one hand and the flashlight in the other. Adams tripped and fell slightly and the buck started to slash at him and strike him with his front feet. The deer struck him several times with his hooves on the arms, shoulder and once in the face alongside the ear. He finally succeeded in getting out of the deer's way and lost no time in putting lots of distance between him and the mad buck. This deer must have had something wrong with him. Perhaps has was rabid. The side of Deputy Adam's face was still swollen two days later when I saw him. District Game Protector Rozell A. Stidd, Benton.



A real Pennsylvania "snowshoe" taken with a high-power.

Ghosts on Snowshoes

By Jack Anderson

WE KNOW the rabbit, with his nervous long ears and suspicious twitching nose, as a timid soul. Yet you wouldn't call a critter timid if you found out he'd spent the Winter in a rattlesnake den, would you?

You'd call the critter a darned fool.

It was the kind of Spring day that makes you as restless as suckers in the river, with a warm fat sun, and green tips showing on the hardwoods, and a few of us were probing Pike County's Elbow Swamp den for snakes when Charley Labar saw where the foolish critter had been.

"Lookit there," he said, and pointed to brown rabbit droppings six inches deep, between two grey bounders of the den. These were larger-than-cottontail droppings and did not have the familiar straw texture.

"Snowshoes," Charley announced. "Probably a pair. They wintered right here." Then, while we picked up stray bits of hair, both brown and white, Charley, who spends every day of his life in the woods, said: "Snowshoes used to be plentiful. But right there is the first sign I've seen of them here in ten years."

As Charley spoke, I was recalling other good signs. Hunting season previous, I'd seen snowshoe tracks near my Swiftwater home for the first time. The kill in the Pocono Lake and other swamps had been heavy for two seasons. Recently I'd read of sportsmen successfully planting snowshoes on Blue Mountain in Berks County.

It seemed that the "ghosts on snowshoes" were coming back . . . coming back after near-extinction.

Some hunters call them "jacks." Some call them "white rabbits." Naturalists call them Varying Hares. By any name, that critter who had been nesting with the Elbow Swamp rattlers is an unusual animal.

For the snowshoe rabbit is almost never found in open country. He loves laurel and rhododendron thickets, cranberry bogs, huckleberry swamps—not fields. He thrives in bitter climates (the famous Indian blankets of the far north are made from his winter fur) and at high altitudes. He likes the solitudes, and as all creatures of the deep woods, there is something mysterious about him.

I recall an early snowshoe hunting experience in the Lake Harmony section, on a day when the rhododendron leaves were curled and the snow crunched under our heavy leather boots; when hardwood trees looked like so many brown snags and the ice choked all but the swiftest riffles of the creeks.

Deep in our red woolens and gloves, Tom Jones and I walked up a narrow, grey birch ridge, a soggy brushy swamp to the east and rhododendron thickets to the west. Tom's dog Jenny, a pure-breeders' nightmare but still a good dog, was working silently up ahead.

"Send Jenny in the rhododendrons," I suggested. "The white devils run regular trails in there."

Walking in from the Pinchot Trail, Tom Jones had been as sour as a green persimmon, for we had seen cottontail tracks and deer tracks, and nothing else. But I knew this territory fairly well and wasn't worried. You can wander the edges of good snowshoe country and not see a track. These animals run certain trails and do not hop about aimlessly, as cottontails do. Therefore, it is important to know your territory to successfully hunt snowshoe rabbits.

Suddenly Jenny let go her peculiar, asthmatic-sounding bark. Tom Jones grunted something about a darned cottontail but I had hopes. Jenny was running in the rhododendron thickets. We stepped into the thicket, bumping snow from the curled leaves, and stood back-to-back among some young hemlocks.

There we stood, feeling the deep frost of the swampland, listening to Jenny's odd bark, watching with our shotguns hanging under-arms.

And soon I had the satisfaction of spotting a big, lanky white rabbit hopping silently along the snows. The snowshoe seemed at times to be

a part of the snow, but again I saw streaks of brown in the fur. On a cold, dead winter's day, the noise of a 16-guage shotgun in a forest swamp gives you something of a shock. I picked my shot and it wasn't a tough one.

The snowshoe kicked high and rolled over. While I was blowing powder-smoke through the choked chamber of my over-and-under Tom Jones said, "I'll be darned. It *was* a snowshoe—and you got him."

Right then, Tom Jones was ready to tackle the swamp.

We gutted the snowshoe, and since we'd be returning across this spot, hung him in the frozen shadows of a hemlock tree. Then we walked deeper into the rhododendron thickets, crawling in the snow where growths were tangled. Now you saw well-beaten rabbit trails and saw the yellowish chew-marks on the aspens and hemlock-roots.

"Not a sign up on the ridge," Tom Jones commented. "Boy, they sure stick to this jungle."

Yes, it would have been a good snowshoe hunt, on that very cold winter's day—except for a careless accident.

Back in those days, I tied my boot laces with an ordinary bow, a foolhardy practice. I was ready to jump a small but very swift-flowing stream and the bow caught on a snag. You know the story. I fell forward, the ice broke, and I was soaked.

You never heard more agonized gasping and sputtering. We had to build a fire, and afterward, we hit for the highway and the car.

Since, I lace my boots as usual until I reach the top eyelets. Then I pass the laces back through the top eyelets on the same side, forming two loops. From here, I cross over the loose ends of the laces and pull tight. I cut the laces to have a four-inch hangover, and now I have no fear of tripping.

It took a painful soaking to teach me that little trick.

On the same sunny Spring day that we saw the snowshoe nest in a rattlesnake den, we heard strange noises back in Elbow Swamp. Charley Labar looked at me, questions in his eyes.

"Young crows?" Charley asked.

"Sounds *almost* like crows. But isn't this kind of early for young crows?"

We walked on, listening to the sounds, thinking hard for an answer. Perhaps we had walked a quarter-mile when we saw a bristling red fox standing on a rock cap that arose like a bald man's head in Elbow Swamp.

The fox was thin, and his fur was pulled and looking like an ill-kept, shedding sheep-dog's.

"That's what that noise was," I said. "Darned if I ever knew a fox made a noise like that."

The fox walked as a defiant dog walks, in a big circle and watching and making angry faces. Finally the fox pulled his tail between his legs and moved faster, slipping out-of-sight.

"She has pups here," Charley Labar said. Lets hunt."

Probably that red fox had decoyed us from her pups. We never found them. But I remembered the snowshoe who had nested in the close-by rattlesnake den and thought: Those snowshoes would make tasty eating for fox pups. And I wondered if such predators, and of course hunters, had been the cause of the white rabbit's near-extinction.

Recently I discussed this with a man who I shall call The Old Woodsman; a man who has spent his lifetime in the forest. The Old Woodsman grinned.

"There's only one reason we near lost the white rabbit," he opinioned. "That reason has four long legs and a big white tail. I mean the deer. It dates back to the big lumbering operations. That cutting of timber

brought along with it the best browse Pennsylvania has ever had—and it created just about the biggest deer herd imaginable.

"Don't forget this. When deer eat, they take the path of least resistance, just as any animal—or human being for that matter—would do. So the deer eat the easiest browse first. That's the browse near the earth—the white rabbit's browse.

"No sir. I don't believe that ten-year cycle disappearance stuff. I don't believe the inbreeding story, that says rabbits don't travel far, and breed so much with their own families that the population gets diseased. I think it's all bunk.

"I say it's a simple matter of food. The deer starved out the white rabbits, and nothing else."

So I remarked that fewer snowshoes are being killed now because the Game Commission changed the season from fall until January. Now cold and deep snow keeps some hunters from the forest. The Old Woodsman agreed that this change helped.

"But I know darned well you still don't find snowshoes where the deer herd is too big," he went on firmly. "The snowshoe and the deer compete for food. It's just that simple."

You can't laugh away the ideas of a man who knows the forest and wildlife through years of acquaintance. So I was an attentive listener.

"You know, I can take you to some swamps—where there are darned few deer—and show you as many snowshoes as in the good old days," The Old Woodsman concluded. "Want to be shown?"

Naturally, I wanted to be shown. We made plans for a January visit—during the open season.

The Old Woodsman loves snowshoe rabbit hunting and loves snowshoe rabbit hounds. He showed me his favorite dog: a cross between fox hound and a rabbit hound. The dog didn't look like much, big and lean and the type you'd never take to a field trial. But while we pushed through the woods on a mild January day, through six inches of very soft snow, The Old Woodsman smiled and said: "Just watch that dog work."

This I have learned: There is no telling if a good cottontail dog will be good on snowshoes. The best of thoroughbreds, who are field-trial dreams on cottontails, often fail utterly trailing the big white fellows. Still, some beagles who are good on cottontails are good too on snowshoes.

The biggest objection to the beagle are the short legs. In January, snows are sometimes deep, and short-legged dogs are helpless. Thus some old-timers use fox hounds as snowshoe dogs, and with good success until the dog jumps a hot fox track.

Well, it was a good walk back to a mile-long swamp where we were to hunt. We were puffing some when the Old Woodsman pointed down at the forest floor. Above the snow you saw nipped twigs, aspen-chewings, and hemlock roots that had been gnawed by white rabbits.

"Seen a deer track?" he asked.

I admitted that I hadn't.

"There's an old trail down aways across this swamp," The Old Woodsman told me. "We'll stand there and



let Bill (his dog) sniff the place out for us."

Then The Old Woodsman told me of a thoroughbred beagle who had, strangely, been able to run white rabbits on bare ground, but who had later failed in snow. He said: "You just don't know about white rabbits. They're peculiar critters and have a big bag of tricks to annoy a hound. If the hound works slow, the snowshoe loafs out ahead of him. If the dog works fast, it's amazing how fast the snowshoe can run this swamp. But one thing the rabbits never do—they don't leave the swamp."

The clearing through this swamp was an old fire line, very rocky and with young aspen growth which showed it hadn't been cut for several years. Just about the time we hit this fire line, that cross-breed Bill hit a trail, let out a whelp, and the chase was on.

Doggone, I've found nothing in cottontail hunting that gave me the satisfaction of this chase through the swamp. And when Bill barked, you knew a big dog was barking.

Somehow, that first snowshoe got past us on the fire line and I saw the big cross-breed, nose on the ground and tail as alive as a buggy-whip, crossing and going into the swamp on the opposite side of the line.

"You got to watch close to see 'em in this snow," The Old Woodsman said. "Sometimes you find a rabbit that ain't turned white, but he's a small one. The older rabbits turn white faster in the fall. If he's snow-white lay a bet he's at least a three pounder. Maybe five."

I followed the chase by the sound of Bill's barking. The rabbit ran the length of the swamp, then I heard the dog turning and figured our shot would come soon.

But suddenly, the barking stopped and I knew that somehow, the snowshoe had thrown the dog from his trail. Just after a chase it grows terribly silent in a swamp, especially with snow on the forest floor.

We waited fifteen minutes, no more, then the cross-breed Bill picked up another fresh trail. The Old Woodsman caught this white fellow hopping leisurely across the fire line and brought him down. The snowshoe rabbit is an easy target if the snow doesn't fool you; generally, he stands for you, or is hopping slowly, looking around, listening to the dog.

The third snowshoe, however, threw the trail, and again, turned that trick at the far end of the swamp.

"Something's tricking that dog at the lower end," I suggested.

The Old Woodsman laughed. "Sure, that's usual. Kind of foxy critters, these snowshoes. There's a bunch of rocks down there, spaced just about a good snowshoe jump apart. They run down there and then jump from rock to rock and then off on one side. They fool the dogs just about every darned time they pull the stunt."

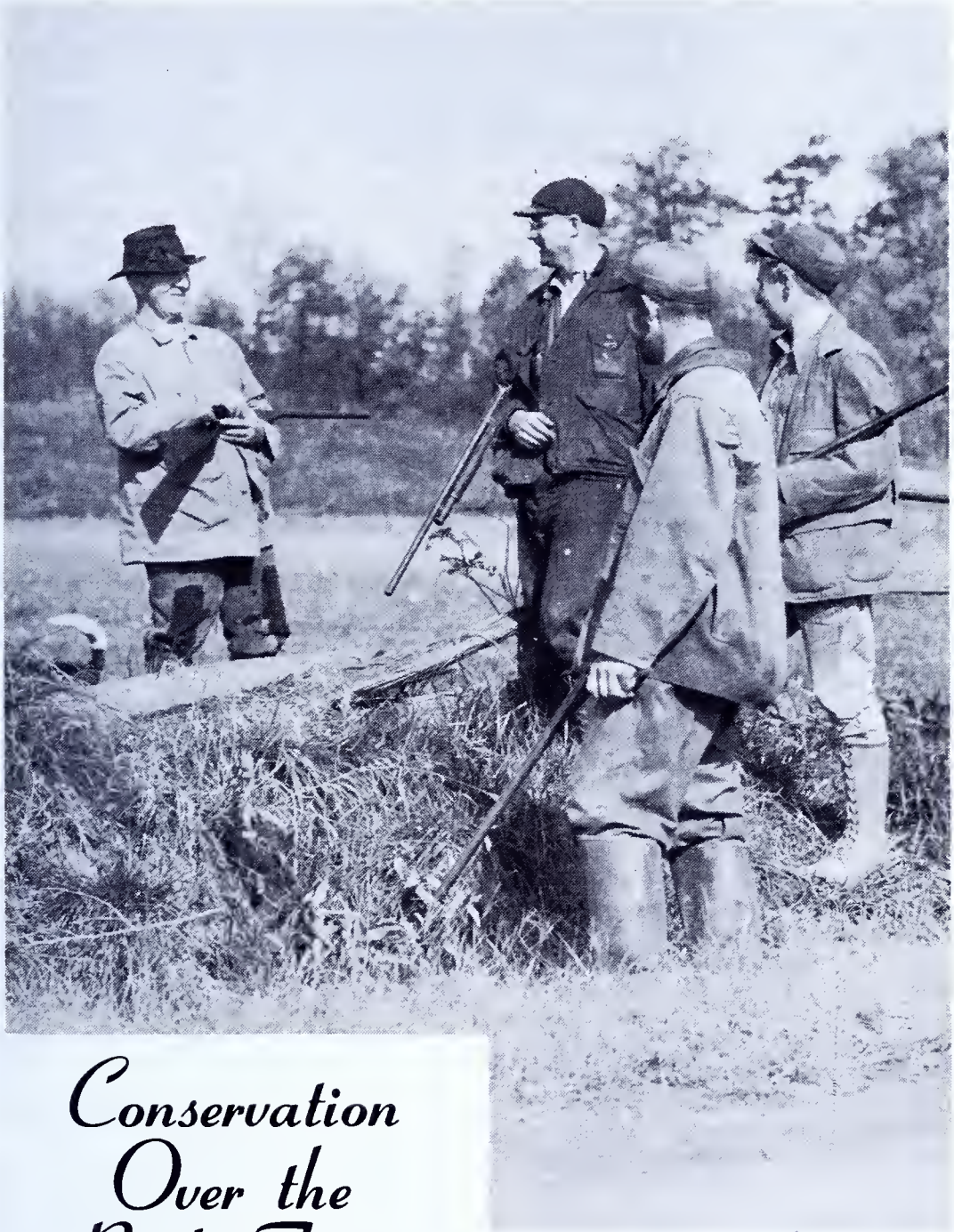
It sounded incredible, yet this story was later verified by another hunter.

Just as I discovered, finding the snowshoe nest in a rattler's den: The snowshoe is a strange, unpredictable animal. He may look like a cottontail, but there the resemblance ends. The snowshoe takes a mate for life—you know that cottontails take any mate who comes along. Snowshoe litters are smaller than cottontails and their gestation period is about a week longer. The snowshoe fur is more silky than the cottontail. Everybody knows how a cottontail runs, but have you seen a snowshoe running? He runs like a young mule.

Our hunt that mild January day ended with a limit bag, and I learned much of snowshoes from The Old Woodsman, too. All of my learning has deepened my respect for the ghosts on snowshoes.

Let's hope these white fellows of the swamplands come back, *strong* here in Pennsylvania.

. . . *The End*



PGC Photo

"Back fence" talk can rally the full support of our citizenry behind the cause of conservation.

Conservation Over the Back Fence

By George M. Dodson

MOST readers of this magazine have accepted the double role of sportsman and conservationist. The two go hand in hand today. No one needs to tell you the urgency of conserving what Pennsylvania has remaining in its forests and streams, while re-building toward the glory that was and again can be this Commonwealth's natural right.

Many of your friends are sportsmen, too. You spend a considerable part of your time with people who share your enthusiasm for the out-of-doors. You see these men and scores like them during hunting season. So after while you begin to believe that practically everyone takes an interest in your favorite pasttime, and must therefore be just as vitally concerned about conservation.

Unfortunately, a sizable part of Pennsylvania's population takes no personal share in this matter. What they know about our forests and natural resources they have heard second hand, and not necessarily from authorities on the subject. They feel conservation means little or nothing to them, for they have the mistaken idea that the whole program benefits only hunters, fishermen, trappers, and similar groups. Let those who get something out of it do the work of preserving it, is their attitude.

Of course you realize that everyone gains when we practice conservation. Results apply to the fellow who scarcely knows which end of a gun is the business department, only slightly less than to the man who spends every available minute in the open. But few will find it out for themselves: to tell them is your job and your opportunity. If residents of this state ever get solidly behind the conservation movement with their influence and their dollars, it will be only because you and your friends have done a lot of convincing talking over the back fence and in the barber shop and during visits to each other's homes.

Why get excited enough to go into a sales talk on conservation every chance you get? Well, there cannot be much progress as long as half the population of Pennsylvania takes no interest or, even worse, tries to block every forward move because it is "too expensive." If every citizen knew the full facts, the demand for action would come from all the nooks and corners of Pennsylvania. When that time arrives—and the sooner, the better—it will be due to your efforts combined with those of others who cooperated in spreading the story through numberless back fence talks.

It may be difficult for you to believe, yet thousands have not seen enough of our forests and waterways to understand the extent of this problem. Riding along Pennsylvania's improved highways, and accepting any growing bush or tree as a part of our "woods," all too few persons appreciate the sad conditions. Writing some time ago in the *Pennsylvania Farmer,* I mentioned, "One gets a different view from the train window, frequently the railroad brings you into close contact with these natural resources. And you are shocked to notice how much of our 'forests' consists of scrub trees and second-growth timber with practically no commercial value."

If you can convince your friends that they should explore some distance back from the highways, they will see for themselves what you have tried to tell them. From then on, you'll have little difficulty in adding their names to the growing list of supporters for every practical means of conservation. As a sportsman today, you have faced these facts and tried to turn the tide. But if you hope to be a sportsman tomorrow, you will have to enlist volunteers in this cause much faster than has been done in the past.

Perhaps you have a selfish interest in wanting to improve our great natural resources here in Pennsylvania. Don't be ashamed of that attitude! Whether or not he realizes it, every citizen has numerous personal reasons for needing to restore and re-forest this state until it again approaches its former grandeur. It's time to tell him about it, over the back fence.

. . . *The End.*



CARELESS DRIVERS MAY MEAN EMPTY GAME BAGS

Everyone recognizes that the automobile plays an important but indirect, part in harvesting the annual wildlife crop by transporting sportsmen to and from the hunting fields. But comparatively few give much thought to the devastating wildlife toll the automobile itself takes on America's highways.

"Sure, everybody who drives on highways or rural roads sees the dead bodies of rabbits, opossums, skunks, and other game species but generally accepts these occurrences as natural tragedies of the road with no thought of the total effect," says Gail Evans, manager, advertising and shooting promotion division, Remington Arms Company, Inc.

"Certainly sporting firearms, next to Nature itself, are the most important tools in harvesting the annual wildlife crop. This is proper as the kill is clean and the meat is seldom wasted. But game killed on the highways by automobiles is almost always a total loss, a loss that mounts in importance because most of these deaths occur during the breeding and rearing seasons.

"While no accurate figures are available, and it would be hardly possible to obtain them, it would be no exaggeration to say the total for the entire country runs into staggering numbers. The Kentucky State Division of Game and Fish has just released some figures for the first eight months of 1951. These figures are admittedly incomplete as a few of the 108 observers in all districts of the state were not employed during the entire eight months period. But they show that 13,267 edible game birds and animals were killed on Kentucky's highways during two-thirds of the past year. These figures do not include the toll taken from the state's population of red and gray foxes, skunk, mink, or song birds, not generally considered as part of the sportsman's larder.

"If Kentucky's conservative figures were to be used as a measuring stick for the whole country and thus multiplied by 48, the loss in edible game to highway deaths would be well over 600,000 game birds and/or animals for the period. Disregarding the remaining four months of the year and using 600,000 as a total, which would certainly be an ultra-conservative figure, this represents a considerable poundage of delicious and highly-prized meat lost to the sportsmen's table through the carelessness of thoughtless drivers.

"The rabbit was the greatest sufferer from this toll. This is to be expected for this species has a wide range and its inclination to cross highways and even play in them is well known. The opossum was next in misfortune, which is in line with observations made in other states. A few deer fell victim to collisions with automobiles.

"It would be again conservative to estimate this meat loss at 1,2000,000 pounds, or 2 pounds to the bird or animal. Placing a value of $2 per pound on it would bring the monetary figure close to $2,500,000. Personally, I believe doubling these figures down the line would give a more accurate picture.

"In this analysis no consideration has been given the loss in clean, healthful sport to the hunter or in breeding stock to wildlife resources,

either of which is a more important item than the actual loss in edible meat. The considerate motorist will do well to scan these figures with a thoughtful eye. If they cause him to slow down the next time he sees game in the road ahead, he will be making a contribution to his own pleasure, the pleasure of sportsmen and conservationists in general, and, in a small way, to the nation's economy. And he could be saving his own life!"

WHICH ONE NEXT?

Did you ever hear of the Tejon grizzly, the Ipswich sparrow, the Laysan teal, or the Kit fox? Well, once upon a time these were animals and birds that were fairly well known on the North American continent. Now they are no more.

"Most everyone knows the fascinating and tragic story of the Passenger Pigeon," says Henry P. Davis, public relations manager, Remington Arms Company, Inc., "but it will be news to many that more than 40 species of wildlife have vanished or are nearing extinction from this continent. Some of them never were known in great quantities in the memory of man, but they were definite species that did exist." The National Wildlife Federation has compiled the following list of American wildlife species that are now extinct or are now threatened with extinction:

Great Auk
Labrador duck
Carolina paroquet
Gaudalupe caracara
Health hen
Maine giant mink
California grizzly bear
Tejon grizzly
Texas grizzly
Plains grizzly
Merriam elk
Texas mountain sheep
Whopping crane
Trumpeter swan
Great white heron
Eskimo curlew
Masked bobwhite
Everglades kite
Gray whale
Greenland right wale
Ivory billed woodpecker
Laysan teal
Ipswich sparrow
Sandhill crane
Glacier bear
Fisher
Blackfooted ferret
Wolverine
Sea Otter
Desert fox
Kit fox
Plains wolf
Guadalupe fur seal
Pacific walrus
Atlantic walrus
Eastern fox squirrel
Nelson mountain sheep
Sierra mountain sheep
Florida manatee
Atlantic right whale
Passenger Pigeon



MILES REEDER

A few months ago it was Tom Mosier, then Ambrose Gerhart who swung out of the official saddle for the last time to seek rest and happiness after many years of hard and loyal service. Now we salute another veteran of the trail—Miles Reeder, District Game Protector, Lock Haven, a man to ride the river with, a man who has given his all to the wildlife cause for close on to thirty-two years.

Miles joined the outfit October 21, 1919 as an Assistant Game Protector and on January 1, 1921 was made a Game Protector, a post he has filled with distinction and honor ever since, ably assisted by a wife who exemplifies the true spirit of every protector's helpmate.

This big, raw-boned man with the infectious smile and the heart of gold retired December 31, just a few days ago. May we never lose contact with him or the other veterans of the conservation trail. Our one great happiness is in knowing that they will always remain symbols of a great outdoor fraternity—the Pennsylvania Game Protector.

WHAT HAVE YOU DONE TO HELP?

During January's cracker barrel discussions indignation is frequently expressed by the boys because of the game law violations they have witnessed. "Where was the game protector"? they want to know.

Naturally, the game protector is a mighty busy man; his duties include patrolling a large part of, or, in some cases, an entire county.

It's obvious that he can't be everywhere at one time—that's where you come in. Report the license number of any gunner you observe breaking the law to the nearest game protector. Be hard-boiled—that's the only way to deal with violators. Don't forget, the game hog is stealing wildlife that belongs to you as well as to him. The vandal is causing the posting of open hunting grounds and robbing you of good hunting. The game laws your game law enforcement officer upholds was designed to protect you and perpetuate your sport. Lend him a helping hand whenever you can.

ALERT DEPUTY GAME PROTECTORS NAB CHEATERS

Pennsylvania's 171 State Game Protectors receive able assistance from over 1800 deputy officers, who are carefully chosen and trained in law enforcement techniques. In the 1951 small game season, two unusual Lancaster County cases showed how alert and versatile these deputies are.

In one instance, two deputies spotted and apprehended a man who hunted on a license he had purchased while his hunting privilege was suspended by the Game Commission for serious game law infractions.

In the other case, a keen-eyed Deputy Game Protector suspected a man of lying. The fellow claimed he didn't need a hunting license because he was gunning on his own farm. But his soft, uncalloused hands gave him away; they didn't look like a hard-working farmer's hands. The man paid the usual penalty for hunting without first obtaining a hunting license. He worked, it turned out, at the barber trade.

To satisfy the demand for the popular poem, *Handlin' A Gun*, by Tom Frye, the Commission has made copies available for free distribution in two sizes suitable for framing. The smaller size, 6 x 9 inches, is printed in brown ink on buff paper, while the 9 x 12 size is printed in black on buff paper. Copies may be had without cost by writing to the Pennsylvania Game Commission, Harrisburg, Pa.

Reload To Keep Shooting

PART IV

By Ed Shearer

FROM the hand loader's standpoint the cartridge case is the most important component that makes up the finished product; accuracy, safety and economy are all dependent upon its excellence. It is the chief reason for reloading because its cost of manufacture is more than all the rest of the components combined. As the average good brass case will stand from 10 to 50 reloadings it is sheer waste of critical material to not make use of it. Also when you discard a modern cartridge case you are in effect throwing away a dime, which is the latest quoted price on Remington's .257.

About 1851 Maynard patented the first brass cartridge to make its appearance in the United States, a tubular brass case with a wide flat head soldered to the body. In the center of the head was a hole through which the charge was fired by means of the tape primers which Maynard brought out in 1845. An automatic lock arrangement fed the roll of paper primers, the latter almost exactly like the cap pistols used by our kids when emulating Hopalong Cassidy.

Smith & Wesson developed and produced the first rim-fire cartridge used in this country. It was a .22 caliber short used in their single action revolver in the year of 1858, and was much the same as the rim-fires used today. A copper disc was punched out of sheet metal and drawn into a closed-end tube. Then the rim was pressed on. The hollow of the rim was filled with a mixture of fulmunite of mercury which exploded when the rim was struck by the hammer nose. Henry adapted this cartridge to a larger case known as the .44 rim-fire and produced the first successful magazine arm which later became the famous Winchester.

The same rim-fire was the fodder used in the popular Spencer rifles and carbines of that day.

Modern cartridge cases start life as sheet brass from 3/32 to 1/4 inch thick depending on the size of the case. This brass is made up for the ammunition manufacturers according to their own specifications. Different sizes and classes of cartridges have their own formulas; the formula of the average cartridge brass is about 70% copper, about 1% iron and lead, and the remainder zinc. The sheets, about three feet wide and up to ten feet long, are fed into a punch press that drives out slugs of varying diameters depending on cartridge size. The press feeds them into a die which draws the disc into a cup form. Then the drawing process proceeds by forcing the disc through a series of dies. Each die becomes smaller until the desired form and size is attained.

Brass becomes brittle when forced through the various dies, and must be annealed between drawings by heating to a certain temperature and immersing in soapy water. It is then fed into another machine which shapes the head, and punches the primer pocket. Next the cases are fed into automatic lathes which turn the extractor grooves for the rimless type or cut away surplus metal and true up cases in the rimmed type. As this operation controls the head space it is held to minimum tolerances. The case then receives its final forming and is trimmed and ready for use.

There are numerous and costly inspections all through this process, with chemists and metallurgists checking to see that the metal maintains its predetermined specifications. Some idea of the extent of these tests can be gained by the fact that it costs as much to inspect and test cartridge cases as it does to manufacture them. The American testing standards are far more exacting than those of European countries and this shows up in the greater accuracy and safety of our domestic ammunition.

There are two main types of cartridge cases that the hand loader will deal with. The first of these is the folded head, which is made by drawing the brass somewhat thinner throughout the case and bending or folding the head and primer pocket into shape. As the grain structure of the brass follows the form of the case it makes a fairly strong case, but one that is seldom used except in pistol ammunition. It is not satisfactory for modern high pressures.

The second is the solid type head made by drawing the cups so that very little metal is drawn from the bottom of the cup. Thus the cup is left fairly thick and is cold forced to form the head and primer pocket. The solid type head is necessary for all rimless cases and others involving high pressures.

These two major types are divided into rimmed, semi-rimmed and belted cases. The rimmed case has a flange (.30/30 Winchester, for an example), that positions the case in the rifle chamber. The rim limits forward movement under the blow of the firing pin. This flange is larger than the body of the case.

The semi-rimless, of which the .220 Swift is an example is a sort of combination having the appearance of the rimless case but with the head sufficiently rimmed to engage the chamber and serve the same function as the true rimmed case.

The rimless case has no flange to stop forward movement in the chamber. It depends on the shoulder of the case coming in contact with the shoulder of the chamber to position it and stop all forward movement. The .30-06 cartridge is an example. We shall see this little feature gives rise to complications when reloading full charges.

The belted case is confined to the magnum calibers, such as the .300 H&H. They are much like the common rimless except that a band just forward of the extractor groove positions the cartridge in the chamber. It makes a particularly strong case and is made for high pressure cartridges with large powder capacities.

Regardless of the type of case all are made by the same methods and subject to the same strains. These strains later cause the condition known as fatigue or season cracking. In the bottleneck type of cartridges this condition shows in split necks and sometimes in cracked shoulders. Military cases are sometimes annealed to relieve these strains; these cases are easily recognized by the blueish color of the necks and shoulders.

Case preparation and inspection are highly important to the hand loader both from the safety and the accuracy standpoint. Even in the most carefully regulated processes of manufacture there are hidden stresses that may develop into dangerous defects under high pressure, so get in the habit of carefully inspecting your cases each time you reload them.

Precision handloading requires the sorting of fired cartridge cases into matched groups according to their condition and the class of loads they are to be used with. Any careful and observant hand loader starting with new cases soon finds himself with two classes of cases—those for low pressure knockabout loads and those for full pressure target or varmint loads. The main thing is not to mix the groups once they are sorted.

Imperfections govern the sorting. The drawing process sometimes leaves the brass in the case necks thicker on the one side than on the other. These necks tend to throw the bullet off center causing it to enter the rifling in an improper manner and may cause the bullet to tip due to the uneven tension by which it is held. Then too, necks that are thin on one side tend to draw out more on one side than another giving uneven case neck length. Only by careful inspection can thin case necks be detected. I use a common reading glass taped to a piece of wire which is in turn stapled to a short block of wood high enough so that it allows free use of my hands under it. This glass speeds things up and you find defects that would otherwise get by. It also has plenty of other uses in handloading.

Case necks should be examined for cracks after each firing. Season or fatigue cracks are plain to be seen but not those inside the necks. Hold them so that the light shines inside the neck and look for seams or scratches that may develop into cracks. Rotate the case slowly in your fingers. Here a poor chamfering job shows up like a sore finger. On bottle neck cartridges examine the shoulder where it starts to neck down; on rimless cartridges this shoulder controls head space which is highly important. Some cases may show faint signs of beginning of cracks. Discard them. While gas escape at this point may not be dangerous it can cause serious trouble. Damage to the chamber by erosion or burning away of the metal by the hot powder gases is a possibility. This will cause a rough chamber and sticking cartridge cases will result. If the bursts occur at the chamber shoulder they may alter the headspace; that means either a new barrel or having the barrel cut off ahead of the chamber, barrel refitted, rethreaded and rechambered.

Cases are resized by either the full length or the neck resizing method. For finest accuracy such as long range varmint loads cases should not be full length resized; they have already been expanded to fit the chamber by firing and should be neck sized only. On the other hand if they are to be used in a type of hunting where speed of fire is desired then full length resizing makes for an easier chambering cartridge, as most resizing dies are close to factory dimensions. Cartridges shot with full power loads out of lever action guns generally must be full length resized. This is due to the necessity of having larger chamber tolerances on account of the angle that cartridges are fed into the chamber from the magazine. Also the breech blocks that are locked only at the rear allow a certain amount of case expansion. However, chamber tolerances are smaller in today's lever actions and by sticking to low power loads little trouble should be encountered.

Hand gun cartridges present their individual problems and these must be solved by the hand loader himself. If the cartridges are to be fired in different hand guns of the same caliber, full length resizing is a must. There is a slight difference in the chamber boring of even our best revolvers; I have two that are good examples of this. Then too, there may be some variation between individual chambers in the same cylinder. If the hand loader is addicted to hot loads or full power loads cases may stick because of expansion permitted by the flexibility of the extractor on various types of double-action revolvers. The cases found to be defective in this respect should be discarded.

Automatic pistol cartridges are not generally reloaded but there are a certain amount of hand loaders who do not mind a little grief. Cartridges of this type must be full length resized. The bottom of the auto pis-

tol barrel at the mouth of the chamber is always slightly chamfered as an extension of the receiver throat to guide the loaded cartridge on its way from the magazine into the chamber. Accordingly, when the cartridge is fired the bottom of the case is over-expanded in that portion of the chamber and will have a slight bulge. This bulge must be removed by resizing.

In rimless type cases full length resizing may produce several kinds of trouble other than head space. For one thing, repeated full length resizing tends to make the case more brittle. To full length resize a case it must be driven or pressed into a die, corresponding to the shape of the case. Should a rimless case be driven into this die deeper than normal the case will be shortened between head and shoulder and head space increased by the same amount. As most resizing dies are made somewhat smaller than the rifle chamber such dies will increase the head space even more. Bear in mind that the head space of most factory built rifles runs about .004 inch. The average brass will stretch that much without trouble. However, a case that is small for the chamber will enter more deeply and give still more head space. I have seen head space increased to as much as .012 inch. This would probably cause the case to rupture at the point where the solid head of the case is thinned down to form the inside walls of the case. This generally results in the spilling of gas under high pressure into the action and generally messes up things, the shooter included. Cases which have been reloaded a number of times and full length resized after each loading are bound to let go in time if excessive headspace exists, particularly if fired with mercuric primers in a few loadings, as these primers attack the brass structure of the case robbing it of tensile strength.

Altering head space is not nearly as likely with rimmed cases as with the rimless variety. The rim is designed to contact the face of the barrel and offer a grip for the extractor. The only danger of altering head space here is in thinning down the case head in repeated resizing or battering it through carelessness. A case battered in this manner should be discarded.

Thus it can be seen that this matter of headspace is not just of factory adjustment but can be altered by the hand loader. Examine your cases carefully when using full power loads and if you find stretched heads or cracked necks discard all the cases in that particular lot. Full length resize rifle cases only when necessary.

In resizing the necks be certain they are in perfect alignment with the body and that they are entering the sizing chamber dead center. In this operation the case is forced into a die which reduces the case neck to less than the desired size. Then an expander plug enters the neck and expands it just enough to accept the bullet. Lead and jacketed bullets generally require expander plugs of different sizes.

The case necks may lengthen with high pressure loads and take up all the lead in the chamber throat, creating dangerous pressures. The necks must then be trimmed either with a file or one of the various tools on the market. The use of an unfired factory case and a pair of outside calipers will readily detect this condition.

Watch for any undue expansion of the case just ahead of the rim where the brass thins down to form the body. This is caused by too much pressure, faulty chamber or headspace. Full length resizing merely aggravates this trouble; find out the cause. I put any case that expands over .0025 inch in the low pressure box or discard it, depending on its condition.

Powder capacity varies in different lots and makes of cases—I have found this difference to run as high as 6 grains. This will alter the loading density and may result in dangerous pressures with some powders in full power loads. This fact alone makes taking full power load figures risky when you don't know the capacity of the cases used. Cut all full loads 4 grains and work up a little at a time.

Be careful in decapping to center the decapping pin in the primer flash hole so, as not to enlarge it. If this happens, junk the case, as even a slight enlargement of the flash hole may jump pressures 15,000 pounds or more. Likewise enlarged primer pockets in which the primer seats too easily call for the junk box. This condition is caused by pressure and cracks may be present inside the head wall where you can't see them.

With today's components I do not clean my cases, but merely wipe the dirt off and clean the primer pockets occasionally. A rag with a suggestion of oil on it cuts die wear.

Let's sum it up like this: Start with new brass if possible. Do a minimum of full length resizing. Stay away from maximum loads. Do not use mercuric primers or cases that have been shot with them unless you have an excess of fingers or eyes. By heeding this advice you will experience a minimum of trouble and a maximum of safety and pleasure.

. . . To Be Continued

MAKE-DO'S AND SUBSTITUTES SAFE AND UNSAFE

Doubtful Procedures in Gunsmithing

Rebarrelling Krag for super-factory power in Hornet, Zipper, etc.

Rechambering .32-40 barrels to .32 Special, Enfield, .30-06 barrels to .300 Magnum.

To convert Savage .30-30 or .303 to .300 Savage requires skill and knowledge of the strength of materials involved.

Converting takedown rifles to solid frame, for greater accuracy, may increase headspace seriously. Have the job checked.

Using casehardened actions for modern high intensity calibers is usually hazardous, and unnecessary.

Rechambering Japanese 7.7 m/m to .30-06 leaves rear of chamber dangerously loose unless barrel breech is cut off and set back first. All Japanese rifles should be proof-fired, with a long string, the firer behind a barricade.

Rechambering a light, thin-barrelled .410 from 2½ to 3 inch length, a 2½ inch 20 to 2¾ inch, etc., can be risky indeed.

Whenever in doubt, consult more than one gunsmith.

—The End

Gun Safety Campaign

The Iowa Safety Congress, in cooperation with the State Conservation Commission and other organizations, has been conducting an energetic gun safety campaign, teaching students, and members of civic groups and clubs, the principles of safe gun handling.

More than 600 gun safety speakers are cooperating in the plan. During the November two weeks' campaign, more than 100,000 bulletins, hand outs and posters have been distributed. Sporting goods dealers in Iowa are featuring gun safety in window displays, the Iowa Safety Congress stop sign poster now carries gun safety cartoons, and members of the Boy Scouts have been busily engaged in placing gun safety leaflets under the windshield wipers of parking motorists. The present campaign is a follow-up of that started last year, which was unofficially credited with saving the lives of five Iowa hunters. The Iowa example is a good one for other states to follow.

Although they are subjected to much more severe weather than are other bears, only the pregnant female polar bear sleeps during the winter.



Can Trapping Be Improved?

By L. J. Kopp

IN order to meet the demands of the fur trade we must find some way to make the "factories" that produce our furs more efficient. In this case it is not a question of merely increasing fur production. It is also a matter of producing the specific type of fur that is currently in favor.

During the past ten or fifteen years the demand has been for the finer short-haired furs, such as the muskrat, mink, otter, beaver, and fisher. As a result these fur animals have been reduced to a dangerously low level.

The demand has grown steadily, and natural reproduction is unable to meet this demand. The decline of these finer fur animals has been estimated between twenty and fifty per cent during the past fifteen years, so we find that the time is long overdue when we should have converted our fur production to coincide with consumer demand.

It is not possible for a factory to remain in business when it does not step up production of those items which are most in demand; the wholesale buyer will seek out another factory where he can purchase enough of the item to fill his needs. The American public today demands the finer furs—the manufacturer knows this very well. However we find that the United States no longer produces enough of these furs to supply the demand, and so the demand must be supplied from other sources.

How to supply the demand? The answer is simple enough—by improving fur-producing areas, and planting "seed" stock in depleted areas. To do this requires information, surveys, work, funds, and public support.

It is comparatively easy for us to select suitable areas, and we know which is the best in a given area. We know which fur animal should be propagated, and where it is best to do so. For instance, in Pennsylvania we know that we have the proper habitat for producing muskrats. We also know that the muskrat is the number one fur animal sought by the fur trade. We have areas in Pennsylvania which are producing their annual quota of muskrats. However, we also have many areas where the supply of muskrats has been drastically reduced. In addition there are many streams and other areas which could produce muskrats if they could be developed for that purpose.

Depleted areas could be restocked, provided that suitable food and cover were still present. Areas which are now producing muskrats could be improved with suitable food and cover, so that they could produce even more 'rats.

The problem to be considered at this point is how to obtain sufficient revenue to carry out a program to better manage fur resources. In Pennsylvania we have no funds earmarked for the specific purpose of managing the fur resources, as some states have.

In Louisiana, for instance, the annual revenue received from licenses sold to trappers and fur buyers amounts to about $26,000. Naturally this amount is not enough to manage the states fur resources, so in addition the state has a severance tax on furs

and collects annually from $65,000, to $75,000 from trappers and fur dealers who ship fur out of the state. The Department of Wildlife and Fisheries has an annual income of $300,000 from furs taken on State Game lands or preserves. The needed funds are thus provided.

Not all of the methods employed in Louisiana could be used to advantage in all other states, but it is possible that some of them could be adopted to advantage.

Farmers and landowners could greatly increase the production of fur on their land by converting low lying wasteland into fur producing marshes. Such land would otherwise be a waste on which the landowner still has to pay tax. Developed into a small marsh it would, within a comparatively few years, pay for itself with the valuable fur which it could produce. Such a small marsh would also provide enjoyment in other forms, such as duck hunting for example, not to mention food for other valuable wildlife.

If neither of these suggestions would prove practical, then it would be necessary to make a direct appeal to the state legislature for an appropriation of funds to finance the fur resources work. Such a step would only be good business in view of the financial returns which sound fur management brings to the citizens of the state.

While it is true that wise conservation is the major remedy, there are other methods which contribute to the production of more and better furs.

A sound knowledge of proper trapping methods is needed in order to avoid loss of furs and to prevent cripples.

Each year the market is literally flooded with unprime skins and improperly cared for pelts. An unprime pelt, improperly stretched, is actually worth only half of the full market value. As a result many millions of dollars are lost to trappers, and consequently to the general public.

Today the trapper can buy traps which are especially designed for each individual animal. Cripples, and loss of fur cannot be attributed to traps, but to the fellow who utilizes the traps; traps today are as foolproof as the manufacturer can possibly make them.

Lost, crippled, poorly handled or unprime furs are evils that can be remedied by education. Increased fur production, on the other hand is dependent upon research, sufficient funds and a generous amount of public interest. When Pennsylvania trappers have these forces at work for them we can expect to approach more closely than ever before that ideal situation of being able to meet the full demands of the fur trade.

. . . *The End*

NEW-FANGLED HUNTING LICENSE

The following poem appeared in The Lewisburg Journal, dated November 14, 1913—the first year that a license was required to hunt game in Pennsylvania.

"The wind blew down on the hunter bold;
Rain and snow dripped from his collar,
And he had no spoils from his weary toils,
Save the tag that cost him a dollar."



Prerequisites to a Successful Hunt

By Thomas A. Forbes

IN THESE days of limited hunting seasons and restricted bag limits it is impracticable for an archer to acquire proficiency in the use of the bow in the actual hunting field. A shotgun pattern allows for a reasonable margin of error when pointing at game so that we habitually lay the shot gun away at the end of the hunting season and may not shoot it again until another season rolls around. Even so we account for a reasonable and satisfactory share of the game that we flush. The archer has no margin or error when he hunts with his bow. The arrow must fly true to the mark and there is no short cut to accuracy. Practice is essential and the number of hits scored in the hunting field is directly proportional to the hours of practise on the target range and the field course. The maxim "It is the man behind the bow who scores the hits," is one that the archer should remember.

Too many novices attempt to buy accuracy by purchasing high priced equipment, and there is the prevailing but erroneous impression among beginners that a heavy hunting bow, to wit 45 to 60 pounds drawing weight or more, will make up for lack of markmanship. It is unfortunate that some of us have to learn the hard way that strained muscles and sore fingers are the inevitable result of attempting to learn to shoot with a heavy hunting bow.

If, during the past season, you got within range of a nice buck and then were unable to score a hit, it is time to sit down and take stock of the situation. It does not matter what series of circumstances lead to that miss. One thing should be evident—an archer has to be a marksman if he measures his success in the hunting field by the kill.

To learn to shoot well the archer should acquire a moderate priced bow drawing not more than thirty (30) pounds, preferably twenty-five (25) pounds if the archer can find time only at infrequent intervals to practise. The next step is to join with a group of fellow archers and spend an occasional pleasant afternoon on a target range. Self analysis of one's shooting form is a difficult task, but a friend can easily pick out flaws in your shooting technique and help you improve your percentage of hits. With your light weight bow you can concentrate on developing proper shooting form. The bow can be held steady at full draw and you can shoot throughout the afternoon without undue fatigue or danger of strained muscles. A lot can be learned by watching an experienced archer handle his bow. He knows the essentials that must be mastered and will willingly share that knowledge with you.

Men are reported to have killed deer who have never shot in a tournament and during the past season an archer was reported to have killed a deer and he had only three and a half hours practise with a bow. Such instances are the exception and not the rule. Certainly one can practise alone, but a great deal of pleasure is

had from shooting in the company of fellow archers and in competing in the numerous rounds which are designed to improve the archers ability as a marksman to the end that he register a clean kill when he goes into the hunting field.

To stimulate group shooting, to provide a means by which archers may compete on terms of equality with each other, to enable each archer to record improvement in his marksmanship, and most important to make practise a pleasant occasion rather than an arduous duty, certain standard rounds have been adopted in both target and field shooting.

Target archery, which consists of shooting at a stationary target at known distances, provides the hunter with the opportunity to accustom himself to his weapon, to become proficient in its use, and to loose an arrow to the mark.

Target Rounds

American Round: Ninety arrows—thirty each at sixty, fifty, and forty yards. Scores are recorded after each end of six arrows has been shot. A possible for the American Round is a score of 90-810. The first figure is the number of hits recorded on the target and the second figure is the total value of the hits or score. The all time record in national competition in the United States is held by Russell Reynolds of Cleveland, Ohio, with a score of 90-752.

York Round: One hundred forty-four arrows—seventy-two at one hundred yards, forty-eight at eighty yards, and twenty-four at sixty yards. Possible is 144-1296. All time record in national competition in the United States is held jointly by Stan Overby of Inglewood, California and Pat Chambers with a score of 139-893.

The combined scores of a double American and a double York round are the basis on which the target champion is determined at the annual tournament conducted by the National Archery Association. The present Target Champion is Russell Reynolds whose combined score totaled 467-3177.

Other events which may be used in tournaments are:

National Round: Forty-eight arrows at sixty yards and twenty-four arrows at fifty yards.

Columbia Round: Seventy-two arrows—twenty-four each at fifty, forty and thirty yards.

Junior American Round: For those archers who have not attained the age of sixteen years. Ninety arrows—thirty each at fifty, forty, and thirty yards.

The next step in the hunters progress is Field Archery which simulates actual hunting conditions. Targets are located in different types of cover in terrain that the archer may be expected to encounter in an actual hunt and the archer is required to shoot without knowing the distance the target is placed from the shooting post. The last step in the archers preparation for a hunt is the Broadhead Round. In events previously discussed it is common practice to use target arrows on the field course. The broadhead round however is the post-graduate course for the archer who aspires to hunt big game with the bow. In this round the archer shoots the field course using the actual broadhead or hunting arrow. Having advanced by progressive stages to the broadhead round the archer can quickly adapt his shooting technique to deliver a broadhead to the mark with the same consistency with which he scores with his target arrows.

The bow is a low velocity weapon and lead is of paramount importance in shooting at running game. You will have to learn to come to full draw behind the game, swing through it and out in front and then release the arrow while the bow is travelling in the direction the game is moving. For-

tunately, since the arrow can be seen in flight by the archer, he can quickly demonstrate to his own satisfaction how necessary it is to lead running game. A moving target, approximately twenty-four inches wide by eighteen inches high, padded with upholsterer's cotton and covered with canvas, running on a wire strung tightly from two trees or posts will serve as an excellent substitute for running game. The archer can use broadheads for practise as the upholsterers cotten acts as a shock absorber and the point will not penetrate the wooden backing to such an extent that it would be difficult to withdraw. . . . *The End*



By Grace O. Beach

Meet Mrs. Game Protector

SHE leads such an unusual life, we just can't understand how she has been left out of the picture so long. Reams have been written about women in all walks of life, from homemakers to those who devote all their time and effort to their chosen career, hobbies or civic work. So far, we have yet to uncover a single column devoted to the accomplishments of a Game Protector's wife.

Through the years your Diana has come to know several of these charming ladies. By this association, we learned first hand how many and varied are their duties and how capably they are handled.

It's about time these ladies take a bow, we decided, and went to work on the idea. The phone was busy for the next few minutes as we arranged for an interview with Eileen McGregor, who graciously agreed to give our readers a sneak preview into the life of a typical Mrs. Game Protector.

Every young girl dreams of what her future will be like when she is settled in a home of her own with the man of her choice. Even in her most fantastic dreams it is almost certain that charming, diminutive, Eileen McGregor never even came remotely close to guessing the goings on that was to be a part of her future life.

Less stouthearted girls might even hesitate to say "I do" if they knew beforehand some of the problems they would be called upon to solve as the wife of a Game Protector. As we listened to Eileen recount her experiences, watched her eyes dance and sparkle with fun and sheer joy of living, we had the firm conviction that she wouldn't have missed a single minute of it for anything you could offer her.

Eileen was born and raised in a small town in Somerset County and her girlhood days helped to fit her for her future life. Living in a rural area, in a county where wildlife abounds, she learned something about them and their habits. Her father and brothers were outdoorsmen and hunters and from them she gained much knowledge that was to come in handy in later years, years that were to be filled to overflowing with

hunters and their doings.

This brown-haired, brown-eyed young girl grew into an attractive, vivacious young woman with a very pleasant personality. If she stood on her tiptoes she could just make the five foot mark and tip the scales at a slight hundred pounds. It is quite easy to understand why young Brad McGregor chose her as his companion for life and its equally understandable why she agreed.

After the wedding, they went to housekeeping in Beaver County, where the groom was stationed as Game Protector for the Pennsylvania Game Commission, and where they are still located.

They hadn't been settled in their new home long before it became quite obvious to the new bride that her future was not to follow the standard pattern of cooking, washing, ironing and regular household routine such as she had been used to at home and one which most housewives follow. These chores were only a part of her show, for she had married a man *and* his job.

Her home became the haven for all sorts of injured and crippled wildlife creatures. One corner of the kitchen was turned into a sort of emergency hospital and Eileen took on the job of acting as assistant doctor-nurse. Here they were bandaged, fed and cared for until they were nursed back to health and could be returned to their natural home.

Then one fine spring day she found herself managing an orphanage, when a basket of motherless rabbits became a new addition to the kitchen, and a nursery was set up. She fed them with a medicine dropper and succeeded in nursing them through their infancy. One night shortly after their arrival she went to the kitchen to care for them and found the basket empty. Some how they had managed to scramble out of their bed.

After much careful searching through the house, the little fellows were rounded up and replaced, that is all except one. "They were so tiny and hard to see" Eileen told us "we were afraid to take a step for fear of hurting our missing baby."

After a long and thorough search they decided to give it up, maybe daylight would uncover the hiding place. They went upstairs to retire for the night and there huddled in the corner of the bathroom was their missing bright-eyed baby. The McGregors are still trying to figure out how that tiny little fellow managed to get up all those stairs to the second floor.

Another nursery was added to the McGregor establishment when their young son Jeff was born. Two years later Susie, their little daughter made her appearance and raising a family of her own became another job for this busy little lady.

A Game Protector can have no regular hours as is the case in most professions. His is a round the clock, every day in the year job. In season and out, most days are from dawn to midnight. Many nights they are routed out of bed to care for some deer or other injured wildlife creature that has become the victim of our modern automobile. Other nights are spent in apprehending some wildlife their working under cover of darkness to aid his nefarious schemes.

Knowing all this, we wondered how any sort of schedule could be maintained in a Game Protectors home. We soon learned there is no such thing. Meals are at all hours, except for the children, who are kept on their regular routine. The meals are either kept hot or prepared fresh for the man of the house when he finally manages to make an appearance.

Social activities fall in the same category, Eileen told us. When they accept an invitation to spend an evening with friends, most anything can happen and does. Sometimes they arrive on time, sometimes quite late, and often not at all. Quite frequently

they have just settled down to enjoy an evening with friends, when the telephone rings and the Game Protector must leave to take care of the problem that has arisen. "When this happens it is then a question of whether Mr. McGregor will get back in time to pick me up or if one of our friends will see that I get back home" says Eileen.

The McGregors are interested in Scouting and other Civic Affairs in Beaver and have a host of good friends and we wondered how their friends accepted these comings and goings of frequent irregularity.

"Our friends have come to accept it as part of the pattern and have a lot of fun about it all. For instance last month we were invited to an Anniversary party, "Eileen went on with her story. "While we were having dinner the telephone rang and Brad had to leave to take care of the call. He arrived home at nine o'clock and hurried to get dressed for the party. We were just ready to leave when the telephone rang again. A deer had been hit by an automobile but it was still living and, of course, had to be put out of its misery. So out goes the Game Protector, party clothes and all." They finally managed to make the party by eleven o'clock it was learned. "We took a lot of humerous ribbing when we walked in—Every one wanted to know who had been nibbling at the cabbage patch again. They kid us a lot about our cabbage patch" said Eileen laughing, "you know the old story of Peter Rabbit in the McGregor's Cabbage patch is a natural."

As is always the case among people who love wildlife creatures, our conversation naturally wandered back to some of the experiences with these helpless injured and motherless young wildlife children that had been processed in and out of Eileen's emergency hospital and nursery.

Among some of the unusual guests they have played host to, was a family of young motherless skunks. They were adopted by young Jeff as his special pets. However, they were very quickly graduated when they reached the danger stage. Not even a Game Protector and his family have yet learned to appreciate their particular brand of perfume.

An American Bittern and a Pied-billed Grebe were among the unusual birds Eileen has nursed back to health and returned to the wide open spaces.

Last year her most outstanding patient was a young fawn which she fed by bottle every two hours, day and night. The gangling, leggy youngster found it rather tough going on the slippery linoleum floor but he insisted on making his home under her kitchen sink. He finally was strong enough and old enough to be moved to a wire enclosure in the back yard and promptly named "Bambi" by the neighborhood. He was quite an attraction and a constant stream of visitors came to see the orphan while he was being raised to the age when he could be moved to a refuge and eventually to his natural habitat.

There was also a mischievous young opossum, who delighted in getting out of his box and crawling up the curtains. While it was hard on the curtains the adventurous young lad no doubt got an excellent birds-eye view of his surroundings from his perch.

This past year has been no exception, and there has been the usual parade. Five 'coons and three squirrels have occupied the McGregor nursery. As babies they were fed by a medicine dropper and then a dolls nursing bottle, until they were old enough to manage a regular fare. Eileen's latest crop of orphans have grown to handsome young fellows as the result of her care.

There is never a dull moment in the life of Mrs. Game Protector. Beside all these many tasks, she must also be a sort of secretary. That modern invention the telephone keeps

up a constant clatter, as hunters and others interested in outdoor sports and wildlife call their game protector with all kinds of questions and problems.

"When I answer the telephone" said Eileen, "they seem so surprised to find that the Game Protector is not in his office. Few people realize how many phases of a Game Protector's work can't be carried on from an office desk. In fact, except for reports, almost all other duties must be carried on outdoors, often at the opposite end of the county."

The questions run the gamut from stray dogs to why I didn't get my license and covering every angle in between, we were told. Some of the answers are more or less routine and the Protector's wife has learned them by heart over a period of years. Others must be deferred until the proper answer can be given by the Game Protector, himself. People from all walks of life ask questions or request help for one thing or another, but mostly they are sportsmen and farmers.

This year the phone was exceptionally busy before the big game season. The extra flurry was caused by the new archery season, new laws, and the special doe permits.

While the Protector is out on duty, the lady of the house receives all telephone calls and provides the answer when she can. This saves many additional calls and provides better service to the public. Problems that need immediate attention are handled by locating the Protector along his scheduled route or by contacting one of the Deputies on his tour of duty.

The Commission has such an excellent training school for Game Protectors, maybe it might be an idea to have a class for the Protector's wife we thought. The question was put to Mrs. McGregor who thought it was an excellent idea, and said such a class would be very helpful.

That Eileen is very happy and satisfied with her career is quite apparent. It goes much deeper than that we found, when she confided: "We are so grateful for the opportunity the children have derived from their close association with wildlife creatures. We are particularly fortunate that we have been stationed here near Game Lands 173. The children have been able to watch it being planted and developed from rough lands with little or no value to one which adequately supports and provides wildlife food and cover. They will have a much better knowledge of good conservation to help them in the future than most children will get. Its too bad all children cannot benefit from such experiences."

We certainly agree with that observation.

It is a well known fact that those engaged in this profession have a deeply imbedded love of the great outdoors and the wild creatures that inhabit it. They understand only too well, what our natural resources mean to us and the great need for conserving them.

Every wildlifer is a conservationist and practices it. The longer they work on the job, the more engrossed they become and it becomes an avocation as well as a vocation. As one of them puts it: "It's a disease—once you've been bitten by the bug you never get over it."

The McGregors have conservationitis in its final stages.

This story is typical of our Game Protectors' wives. You won't find their names on the personnel roster of the Commission, but they act as a sort of special Assistant Deputies, nevertheless. Some of them have had some unusual experiences on the job and we hope to tell you about them from time to time.

If you haven't met your Mrs. Game Protector, you've missed something.

. . . *The End*



The Gun Dog's Nose

By Herbert Kendrick

SCENTING ability is one of the greatest assets in the animal kingdom. It is the necessary equipment which enables animals of the wilds to survive, by procuring food, and being alerted at the approach of an enemy.

Fortunately mankind can utilize the hunting dog's scenting powers to furnish sport and meat in return for free board and lodging. It is an excellent arrangement for both man and dog, and I sincerely hope that this partnership will remain a part of civilization until the end of time.

No individual knows very much about scent, however the experienced dog man knows that on some days his dogs find birds and many days they do not. The keen observer and student of hunting learns a few limited facts about weather, ground, and seasonal conditions which may affect the animal's location of game birds. The physical condition of a dog has an important bearing on his ability to smell. Quite often I have seen the kennel-master feel the noses of the dogs before selecting a pair for a hunt. If a dog has a dry warm nose he is left behind for the day because it is safe to assume the ol' boy is a little off.

It is almost certain that atmospheric conditions play the most important role, but there are many other factors to be considered. The long flight bird, leaving the majority of scent in the air, is difficult to locate. The huddled group of birds emit practically no scent at all. I have seen excellent pointers and setters pass extremely close to a covey without a pause, and then walk into the bunch.

A bird dog should be hunted against the wind whenever possible. Simple understanding is required to tell us that an odor is transmitted with the breeze, and if the dog has the advantage of running into the wind his chances are much better. An experienced dog will always work toward the breeze if he is allowed freedom.

Ray Holland in his excellent book "Bird Dogs" relates an interesting experience in western Kansas when prairie chickens were plentiful. He got out of his wagon at the edge of a draw where a light breeze was blowing directly in his face. He definitely and immediately smelled birds and reported this to his companions. The dogs were released and were on point almost the moment they hit the ground. About forty chickens were roosting there. The ground showed that it was a favorite spot, and was as easy to smell as a much used domestic poultry yard. With the highly developed noses of the dogs, location of the birds was very simple. At other times it is much more difficult, so do not abuse your dog if he misses once in a great while.

It is a wise hunter who waits an hour or more before he follows singles. Allow them time enough for the scent to permeate the air around them, making it easier for the dogs to locate them. Go ahead and hunt other fields, returning to the singles later.

Perhaps you have often made a clean kill, seeing the bird drop in

the open, and be amazed when your dog passed within a few feet of the bird without noticing it at all. There is no scent when he first hits the ground, however within a very few minutes the dead bird will release enough scent that the dog can locate it. For this reason it is wise to allow your retriever plenty of time before you confuse the situation by moving in to help him. When you walk in the area of the fallen bird your scent makes it more troublesome for the dog.

I have seen a few superlative dogs run right through a covey of birds, exhibiting no sign of scenting at all. Do not question the dog's nose, just accept the fact that some unnatural condition caused the mishap.

At a period of time when the weather is unseasonably warm and then start a hunt preceded by a night of extreme cold and strong wind and you are wasting your time. With the warm earth and cover, coupled with sudden cold and wind, birds are safe and snug because a dog cannot locate them. Why? I wish I knew.

Good scenting days are enjoyed when the ground is cold with a little frost before the sun warms, and a gentle breeze drifting scent toward the dog.

Dry cover makes a tough day for the dog. Scenting conditions are poor, and excess noise under foot frightens the game, thus making a poor hunt indeed.

I have enjoyed good dog work on many misty rainy days, and have successfully taken grouse over staunch points when the weather was sleeting and icy.

Game birds seem to emit very little scent when snow covers the ground. Most likely the reason is that birds do not move. Some states do not allow hunting if the ground is covered by snow. Perhaps it is a good law because many of us feel that it is not sporting to disturb them when the weather is against them.

It is beautiful to see the pointing breeds learn with experience the feeding habits of birds, and cover the fields where they are bordered by woods and thickets. Game leaving the thick cover to feed in the fields leave a clear scent for the experienced nose to locate.

Keep your dog in good health, work him regularly, train him well, help him hunt by learning your game and cover, and please do not blame him completely for an occasional flush.

. . . *The End*



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THE STORY BEHIND THE COVER

THE lithe, sleek-coated otter has just caught sight of a toothsome fish lurking in the depths of the pool. In a moment he'll slip noiselessly into the water and launch himself upon his finny prey with speed and grace unequalled by the fish itself. Perhaps the chub will see him coming, but his frantic flight will merely postpone the inevitable end. Few fish can outswim and outmaneuver a hungry otter.

In Pennsylvania this valuable fur bearer is confined chiefly to the more remote northeastern regions. Small lakes and streams are his favorite haunts, for he lives almost entirely upon fish with an occasional crawfish or frog to vary his fare.

Otters are highly intelligent and their propensities to play and amuse themselves are unparalleled in the animal world. A popular sport is that of sliding down a steep muddy or snow-covered bank. With forelegs doubled back and hind feet pushing to get a start, a family group of these animals will take turns "tobogganing" for hours on end. This sliding technique is often employed in escaping their enemies. When pursued in snow the otter will hurl himself forward on his chest and slide along with amazing speed, sometimes diving under the snow to avoid capture.

The otter's short, thick fur is highly prized by trappers for its attractive sheen and excellent wearing qualities. However, due to the lack of proper habitat the otter is not abundant in Pennsylvania, and only a few are taken annually.

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THIS month we pay homage to two great Americans —George Washington and Abraham Lincoln. Though different in many ways, they had two things in common. They were realists and they loved the land. Regrettably, history mentions very little of these grass-root qualities. Actually, their whole philosophy and the events which led to their individual greatness, sprung from their love of the land and the living.

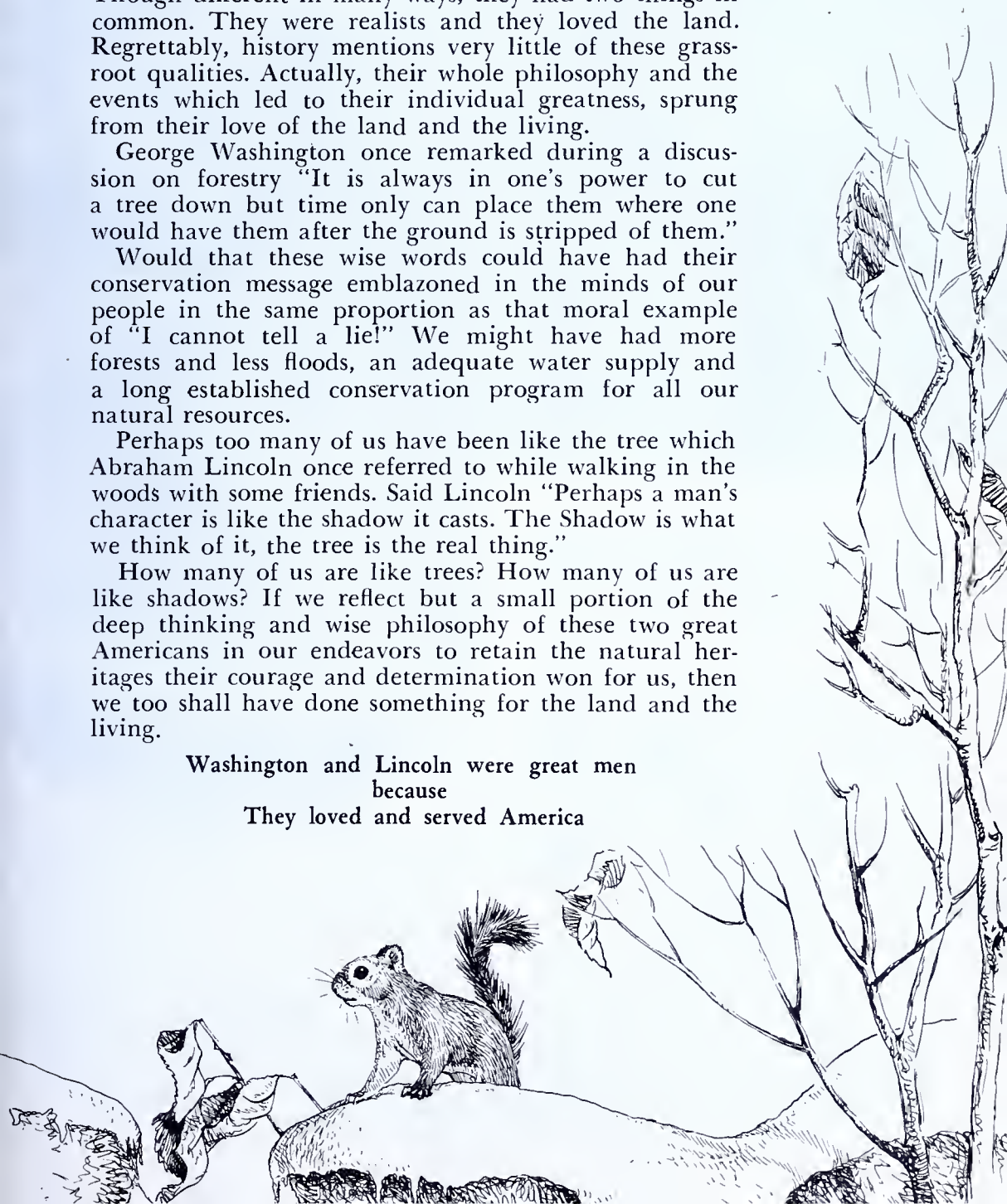
George Washington once remarked during a discussion on forestry "It is always in one's power to cut a tree down but time only can place them where one would have them after the ground is stripped of them."

Would that these wise words could have had their conservation message emblazoned in the minds of our people in the same proportion as that moral example of "I cannot tell a lie!" We might have had more forests and less floods, an adequate water supply and a long established conservation program for all our natural resources.

Perhaps too many of us have been like the tree which Abraham Lincoln once referred to while walking in the woods with some friends. Said Lincoln "Perhaps a man's character is like the shadow it casts. The Shadow is what we think of it, the tree is the real thing."

How many of us are like trees? How many of us are like shadows? If we reflect but a small portion of the deep thinking and wise philosophy of these two great Americans in our endeavors to retain the natural heritages their courage and determination won for us, then we too shall have done something for the land and the living.

Washington and Lincoln were great men
because
They loved and served America



PGC Photo by Cady

Uncontrolled dogs pulled down this doe and left her more dead than alive. A Game Protector put her out of her misery.



Let's Stop the Self-Hunting Dog

By George X. Sand

Helpless infant cottontails like these are easy prey for stray dogs.

IT happened during the spring fishing season. We were returning down the swollen river to our camp site late one afternoon when suddenly the woodland stillness was broken by a yelping clamor that had absolutely no place there this time of year.

In the stern of the canoe our guide

lifted his dripping paddle, listening. "Dogs," he announced shortly. "A pack of 'em. Running deer, probably."

For a long minute we drifted quietly with the swift current. The sound of the excited pack grew louder, coming straight toward us and the river.

The guide pointed to several small, fir-covered islands lying well out toward the center. "The deer'll probably try to shake the dogs by swimming for it. I've seen 'em do it before."

He was right. Shortly, a couple hundred yards downstream, the reddish-brown figure of a frightened deer burst from the green scrub that lined the near shore. But this particular animal, a young doe heavy with the weight of her unborn fawn, was in no condition to swim. Tongue hanging, she slid to a stumbling halt on the bank.

"Why, the dirty devils!" my partner exploded. "Look at the blood on her flanks and legs." Quickly, he reached for his duffle bag and the .22 target pistol there.

We were too late, however. A howling collection of outlaw dogs had already broken from cover, were leaping triumphantly toward the confused doe.

For a moment she stood there, wall-eyed with fear. Her bulging sides heaved as she fought to make the decision that might mean escape and a chance for that other life struggling for survival inside her.

As she hesitated a handsome black and white bird dog flashed in close, clamped snarling jaws painfully over one slender hind leg. It was enough. Jerking free, the doe whirled and jumped clumsily into the rushing water below.

Surprised at sight of the setter, apparently a blooded animal, my partner swore and lowered his cocked pistol. "C'mon, she'll never make it against this current," he yelled.

The doe did make it, however. Perhaps it was our reassuring presence right behind her that was responsible. When finally she stumbled upon the sandy shore of the nearest island, wobbly-legged and blowing, we felt like cheering.

By this time it was almost dark. The thwarted dog pack had disappeared.

"That black and white setter," my partner mused as the guide sent us on our way again downstream. "I don't suppose you know his owner?"

The guide shrugged. He'd already complained to the man, it developed. "But what good does it do? We've got several black and white setters around here. You need proof."

Would he take us to see this man? He would.

After dinner the guide drove us to a small town half a dozen miles from our camp. At first glance the big owner of the self-hunting dog was a typical sportsman. He smiled appreciatively at sight of our rough fishing clothes. His voice boomed heartily as he welcomed us into a den boasting well-cared-for guns, mounted fish and game trophies. But when we explained our visit his manner changed. Definantly, he reached down to rub the silken ears of the black and white setter, now lying innocently before the fireplace.

"Get out," he ordered coldly. "Why, I've had this dog for years . . . he wouldn't harm a kitten!"

So we had to content ourselves with a visit to the local warden, who could only listen sympathetically and promise to keep a wary eye on this particular animal.

"I know just how you boys feel," that officer told us. "Like this one, most states have regulatory dog laws. Trouble is, they call for catching the guilty dog in the act. You've got to have proof before you can shoot such a critter or fine the owner. Unfortunately, the dogs far outnumber the officers whose responsibility it is to catch them."

Some idea of the number of dogs in this country can be gotten from a recent survey that was projected over 300,000 of the nation's active sportsmen. 236,340 or 78 per cent owned one or more dogs. 21 per cent owned an average of 3-2/3 animals each, making a total of 419,720 dogs belonging to 236,340 sportsmen.

Were we to apply this ratio to the 11,391,810 licensed hunters during the 1947-48 season, and assume but one dog owned by each of this country's 5,900,000 farmers (who are usually not required to purchase hunting licenses), we find ourselves with an estimated national population of 26,000,000 dogs!

Some 25,000 unwanted dogs are killed annually by game wardens in Virginia. This represents about one dog to every 9 licensed hunters.

In January, 1948, dogs killed 1,000 deer in *ten days* in New York State.

Out of a total of 4,350 deer killed legally, accidentally, and illegally in Vermont in the winter and spring of 1944-45, 87 were killed by dogs. Almost the same number were killed by dogs in 1945-46. In Vermont the bobcat is the only other known predator of deer—and it is significant that the cats accounted for only *two* known deer in each year.

What's to be done then, about this sad situation? I know one thing . . . just like you, I wouldn't stand for anyone to falsely accuse *my* dogs, perhaps needlessly limit their freedom. My animals are loyal. Unless I call them off, they will hunt for me until they drop in their tracks. Softeyed, gentle, they worship me and my family; they protect our home, giving it a graciousness that no other animal pet can give.

But that is not the answer. Every dog-lover feels the same way. What is needed is for each owner to view his animals with unbiased eye. For their sake, ask yourself these questions:

"Do I know where they are during the breeding season; during periods of deep snow or high water—conditions which limit the free movement of game birds and animals, making it easy for dogs to prey upon them?"

Remember, practically all breeds of dogs hunt instinctively. Trace back the ancestry of even most of the lap dogs and you will discover that they were developed for some kind of hunting. Poodles have been known to chase deer into water. So try to remove temptation from before your own dog whenever possible.

Too much freedom and too little discipline permits a dog to form wrong associates and gets him into bad habits—exactly as in the case of a human. I've seen this happen many times. One such occasion stands out in my memory, however.

Herb Munyon was the taxidermist in a small mountain village, and crazy about quail shooting. Herb, who didn't have a mean bone in his body, had his whole life wrapped up around his wife and baby daughter—and their big red setter, Mike. If ever you came upon Mike working a field—big, high-domed head thrust inquisitively forward, featherly red tail waving eagerly above the Indian grass— it was a safe bet that Herb wasn't far behind.

Then one snowy morning tragedy thrust its clammy fingers into Herb's happy little world. An auto accident took the life of his wife, left the little one badly injured.

Herb's usually grinning face seemed to stiffen up and stay that way. We did what we could, trying awkwardly to be of help, now and then feeding Mike his supper on those nights when Herb didn't get back from the hospital until late.

At first Mike didn't seem to understand. His liquid brown eyes would look up at us questioningly when we put food down before him in a strange plate. Then gradually he grew resigned to the prolonged absences. No longer did he sleep curled up on the front porch, waiting up for Herb. No longer did he go dancing down the

street to defend his home against some strange dog. Something seemed to have gone out of him.

Came the night when big Jud Rollins, the warden, walked into our sportsmen's club meeting, and you could tell from the look on his face that he didn't enjoy what he was going to have to say.

"Herb Munyon's setter has taken up runnin' deer—he's been seen several times."

"I don't believe it—not Mike," Herb said tonelessly when we carried the word to him. Then, his voice rising as he considered it. "What's it mean? The warden won't—Mike—"

The warden did. He had to. The state game code demanded that he dispatch any dog found chasing deer at any time. Perhaps it would have been better had we left Herb back in the village. But he insisted on coming along—to be shown.

While overhead a frosty slice of moon swam through a cloudy sky, we sat in the chill cab of the warden's pickup truck, the three of us, hidden among some stunted pine at one edge of Bob McAnney's overgrown south pasture. Earlier, McAnney had shown us the doe he'd seen the red setter bring down the night before.

We waited a long time. I could almost hear Herb hoping out loud. Then the deer came, as they usually did, down through the willows along the creek, out onto the open bog. Only this time they were running. Flying hoofs rattled against the frozen surface. For behind them, running swiftly and silently, like wolves, came two dogs.

One of them was Herb's red setter, Mike.

"Once a killer, always a killer," I heard the warden mutter grimly as he chambered a shell into his rifle. With his second shot both dogs were no more.

The silent ride back to town represented twenty of the most miserable minutes of my life.

Poor Mike, now sprawled in the back of the truck, had fallen in with bad company— a vicious looking black and yellow mongrel of doubtful ancestry.

Director Lawrence Temple of Oklahoma's Game Division defines such dogs thusly: "Curs are usually driven from home by owners who refuse to shoot them. Usually they are brought home as a cute puppy and after outgrowing puppyhood, are no longer wanted."

These neglected dogs then commence to hunt for food, taking whatever comes along, for they are hungry and hunger is a powerful motivating force. Once they acquire a taste of wild meat they soon seek it deliberately, thereby influencing other less experienced dogs.

James B. Trefethen, of the Wildlife Management Institute, wrote me: "I once observed a pack which contained over 20 dogs that had snowballed around a single mongrel. This pack did much damage to local small game populations in the month or so it took for the local dog officers to break up the pack. This bunch contained at least five pedigreed and well-cared-for dogs who returned home every day and who were unsuspected by their owners."

Did you know that such roaming dogs will eat the *eggs* as well as the young of birds? Equally serious in some areas is the bad habit of disturbing nesting birds. Birds disturbed thus during the breeding season often abandon their nests. This results in a low hatch and a poor hunting year.

Mosby, the naturalist, observed 40 wild turkey nests in Virginia. 57 per cent failed to hatch, with with desertion accounting for 31 per cent. The free-hunting dog was credited as most responsible for this desertion.

Stoddard lists the dog as a serious disturbing factor of bobwhite quail in the Southeast. This is understandable, as the back country of the South abounds with flea-bitten, underfed mongrels usually kept around colored

homes. It is the belief of most Negro families that such an underfed dog makes a much better hunting dog. Such being the case, the dog is in pursuit of game the year-round, destroying many bird nests and the young of wildlife.

Sometimes the self-hunting dog will turn back to civilization when game is scarce, killing fowl, cattle, sheep. Oklahoma has on record a case last year of a cur pack threatening a human.

Of course, deer is the type game usually favored, simply because the scent is so strong that any mongrel can run it. Except when handicapped by deep snow or other impeding condition, a deer can usually get away from a single dog—outrunning, outjumping, outswimming and, if necessary, out-fighting him in order to escape. But let two of the barking killers tackle the deer at once, and the problem becomes serious.

"Does my state have adequate laws to control self-hunting dogs?"

If you can't answer yes to at least part of that question, brother, you and the rest of the boys had better get together. The laws may not be completely "adequate" in that they usually demand that the animal be caught in the act by a dog officer, as previously mentioned, but at least they are a first step toward a solution of the dog problem. Don't continue to allow a lot of good game to be stolen and destroyed right under your very noses. Work through your sportsmen's clubs to see that it becomes illegal for dogs to hunt by themselves afield.

"What should I do if I discover what appears to be a self-hunting dog in action?"

First of all, *do not* fly off the handle and try to take the law into your own hands. Don't make the inexcusable mistake of shooting an innocent dog. Instead, if you are sure the dog is guilty, try to pick out several identifying marks on the animal, so you will be able to point him out later. If possible, call his actions to the attention of a witness. Then take your case to the local warden or other dog officer, trained to judge such animals. He'll handle it from there.

Remember, it should not be the aim of a sportsman to wage war on a cur dog. They are not curs by their own choice. Mostly they can thank their lot to some careless human for neglecting them. What is needed, therefore, is an intelligent approach to the problem through education. The next time you see your neighbor letting his youngster drag home several puppies simply because they are "cute" explain to him what may well be the outcome unless he is prepared to properly care for the new additions to his family. Join with the other hunters in your area to see that all dogs going afield are accounted for.

In conclusion, remember that no breed is any worse than the others as far as outlaw potentialities are concerned. It was not too many millenniums ago that the dog (*Canis familiaris*) and the coyote (*Canis latrans*) and the wolf (*Canis lupus*) all sprang from a common wolf-like ancestor. Under favorable conditions the line still becomes finely drawn for Rover. That's the time when he is in greatest need for all the love and constant interest that you, his master, can show him. Without them it becomes easy for him to step across the line.

And, once across, there is usually very little chance of his ever coming back.

. . . *The End.*



This little orphan was found crawling about on a city lawn after a storm wrecked his aboreal home.

The Low-down On "Sciurus carolinensis"

By Robert Wingard

INTRODUCTION

IT'S hard to say what makes a squirrel hunter. Perhaps it all starts when a boy sneaks into the farm woodlot with a single shot .22; or maybe the only real squirrel hunters are the old-timers who stump-hunt for the makings of a pot-pie. There are some who defend stalking and some who prefer to use a favorite dog to tree the bushytails. But somewhere between the extremes will be found the "average hunter" who merely enjoys an autumn morning in the deep woods with a chance to match wits with this small, gray ghost of the tree tops.

The gray squirrel is perhaps the most versatile of our game animals. To a city inhabitant the occasional sight of a squirrel begging for a nut adds a bit of wildlife to an otherwise man-made park; as a table delicacy its savory flavor is preferred by many; and in natural habitats it becomes an unpredictable creature of many facets. First curious, then cunning, but always a wary, elusive target as it bounds to a tree, gives a flip of the tail and disappears into a den. If kill records are any criterion, this sporting forest dweller is sure to be high on the hunter's list when the seasonal bag is tallied. In support of the squirrel's popularity, as recently as

1942 the annual kill in the State was in excess of one million individuals, and over a period of time the gray squirrel has been exceeded only by the cottontail rabbit in numbers of game mammals killed in the Commonwealth.

Certainly we owe a debt of gratitude to the grey squirrel who over the years has provided from 500,000 to a million pieces of game annually to the hunters of the State in addition to their esthetic value and tree planting attributes. And all this has come about with little assistance from man in the way of definite management practices, or an attempt to understand the complex relationships associated with our squirrel population.

History

About 200 years ago Pennsylvania had a special squirrel problem. Early naturalists left records that "Penn's Woods" supported squirrels in unbelievable and incredible numbers. It is not difficult to visualize the hordes of grays and blacks as they descended on corn fields situated in the midst of a forest wilderness. Black squirrels are a color phase of the gray, and at one time were far more common than they are today. Our founding fathers sought relief from the crop depredation by a controversial type of management which is still used to control undesirable animals, namely a bounty. Strange as it may seem today, in 1749 Pennsylvania paid bounty for the killing of 640,000 squirrels! Whether the payment of bounty did much to alleviate the damage is unknown, but it is probable that most of these animals were destined to fall before the "long rifle" regardless of the bounty incentive. With settlement and development of the State came an unintentional control—the cutting of extensive forested areas which destroyed their homes and contributed greatly to their decline in numbers.

We all realize that it would be physically impossible, and economically undesirable, lest the wrath of present day farmers be incurred, to have all woods abounding in squirrels. Nevertheless, in the face of heavy hunting pressure it is becoming more difficult to maintain a shootable surplus of this game species. The problem today is certainly no longer one of control.

Life History

The most significant fact which concerns most hunters is the number of game animals which present themselves during the fall gunning season. With this in mind let's examine the sequence of events which lead to the production of the fall squirrel crop.

In Central Pennsylvania the main breeding season extends from January until March. About two weeks fluctuation in the onset of breeding may occur from year to year as a result of weather conditions and other factors, and likely this same variation applies for latitudinal differences in various parts of the State. Evidence of some scattered breeding throughout the summer is indicated by the small juveniles encountered during a November hunt. But on the basis of our present knowledge it is believed that the bulk of the immature squirrels in the hunter's bag originate from the late winter breeding season. It has been adequately demonstrated that the gray squirrel has two breeding peaks in some southern states, but more information is needed to evaluate the importance of second litters in Pennsylvania. It is probable that the more northern states are limited to one main breeding season in late winter with minor reproductive activity in the summer.

Anyone who has intercepted a squirrel mating chase will remember it as an unusual experience. During late winter any group of noisy, barking, chattering squirrels is apt to develop into a chase with several males in ardent pursuit of a female. Use of

the voice may of course indicate warning, alarm or anger, but during a chase the abnormal amount of talking adds excitement to this activity. The chase may lead from the ground to the tree tops, or be confined entirely to the trees, where eventually one dominant male succeeds in fighting off the other suitors and mating occurs. With the continual conflict among the males there is evidence that grays are promiscuous in their breeding habits. Numerous battle-scarred males with torn ears and stub tails attest to the ferocity of these mating fights.

Normally the first young squirrels, about one-third the size of adults, are outside the dens in early May and continue to appear until June. To account for the unusually long period between mating and appearance of the young we must consider the gestation period of 44 days and the lactation period of 8 weeks. Newly born squirrels are helpless, naked and remain blind for 37 days. It is a little wonder that they require maternal care for such a long time before venturing forth from the den. Litters may range in size from two to five with three being the usual number. Early activities are limited to playing in the den tree, but within a few weeks the family group spends considerable time foraging on the ground and feeding on the succulent buds, flowers and seeds of various tree species. By fall the immatures will average almost a pound while the adults normally weight about a pound and a quarter.

Feeding Pattern

The old adage "Nature in the raw is seldom mild" has a positive application to these arboreal creatures. Squirrels are entirely dependent upon the whims of nature, for only if the mast crop has been productive will there be an adequate supply of cached nuts and acorns; otherwise they will be hard pressed to find sufficient food. A common misconception is that grays cache large quanities of foods in cavities such as hollow trees. This trait is well developed in the red squirrel, flying squirrel and chipmunk, but the gray and fox squirrel bury individual nuts and acorns about an inch beneath the forest litter. There has been much conjecture as to how a squirrel finds these buried stores: could it be that memory serves to relocate several hundred nuts over the winter or is some special marking system used? Experiments with captive and wild individuals have explained this behavior by the sense of smell, although memory and familiarity with the locale help to restrict the searches. Providing nature has been bountiful with the mast supply and barring a lapse of the sense of smell, we would expect the squirrels to be reasonably well situated. However, they must contend with old man winter who may send sleet, ice and crusted snow which can lock their food supply in a veritable deep freeze for days or weeks at a time.

A combination of a poor mast year and severe winter weather will cause an appreciable number of squirrels to succumb to starvation, and the dearth of food will necessitate extensive movements among the remaining animals thus exposing them to other mortality factors. This is the operation of a fundamental natural law which reduces the population during times of food shortages. Food conditions during the winter are also reflected in the spring litters because of the nutritional requirements associated with the breeding season. A food scarcity will likely result in poor reproductive success, while abundant food means fat squirrels and large healthy litters.

With the early thaws of spring the squirrels have reason for a new outlook. Swelling buds, and flowers of the red and sugar maple are heavily utilized as foods in April. These

green foods are of importance to females caring for a litter. A little later the winged fruits of red maple and American elm are primary foods. The method of feeding on these species consists of clipping the twigs, then removing the flowers or seeds after which the "cuttings" are dropped to the ground. Debris beneath one of these spring fruiting trees may be as abundant as the familiar cuttings beneath a hickory. Summer foods consist of berries and fruits as they become available.

Grays begin cutting hickories in the "dough stage" in late July and August. Black walnuts and beech are also preferred food, but, because of their limited distribution, it remains for the acorns of the various oaks to provide the bulk of the late summer, fall and winter food.

The Squirrel's Home

Gray squirrels utilize two types of habitation. While winter storms rage hollow tree dens offer a warm, dry retreat, and it is here that the young are usually born. Leaf nests in the lofty tree tops or nestled in a grape tangle are used primarily during the warm season, but may be occupied on sunny days of autumn and winter. Several opinions have been advanced regarding the need for two types of living quarters. Lack of sanitation and the presence of annoying fleas may force a move, while anti-social behavior associated with the arrival of young may cause dispersal from the home dens. Then too, dens are more permenant structures; whereas, nests are of a temporary nature and can be located near a food supply according to seasonal needs.

Squirrel dens do not just happen! Natural pruning of tree limbs, after the passing of years and some conditioning by the squirrels themselves, form the majority of dens. Openings are created as a branch snaps off near the trunk, then as the bark starts to heal the break, squirrels will gnaw the callous growth until rot enters and forms a cavity. An interesting relationship exists between squirrels and pileated woodpeckers inasmuch as some chisled openings made by woodpeckers are appropriated as squirrel dens. Cavities caused by injury and splitting occasionally form good dens, but more often water drainage makes them undesirable.

Leaf nests may consist of a few leaves placed in the protected crotch of a tree, or they may be elaborate structures built of twigs and leaves with an extra lining of shredded bark and grass for added comfort. It is the latter type which normally persists through most of the winter and tempt unknowing hunters to take a pot-shot through the nest. Little do they realize the wastefulness of this practice in the cripples and unrecovered squirrels. And there must be no sporting satisfaction to the hunter who fills his bag of squirrels by this method.

There is more to the squirrels "home" than a place to sleep and take refuge from the elements. While dens and nests are the actual living quarters, their location will depend to a large extent upon the kind of trees found in the vicinity. With our present knowledge the important factors limiting squirrel populations appear to be yearly fluctuations of the food supply combined with severe winter weather. The optimum squirrel habitat is one which consistently provides the necessary foods the year around, and it is here that these animals locate their headquarters. Ideally, there should be a mixture of mast-producing trees with some spring fruiting species to give seasonal variety. A mixed oak-hickory woods with some red maple and elm is far superior to a stand of chestnut oak with respect to the assortment and regularity of foods produced. With a diversity of trees and shrubs there is more liklihood that food supplies will be adequate even though periodic failures occur among some species.

Relationships With Other Animals

It is generally agreed among biologists that predation is relatively unimportant as a factor limiting gray squirrel numbers. This is an inherent characteristic of the species, for with few young produced each year the squirrel could not afford to be subjected to high predation losses and still maintain a shootable surplus. Predator food studies have seldom shown squirrel remains to constitute more than a minor item of the prey species. Foxes and feral dogs along with the Cooper's and goshawk account for the most serious predatory losses. Undoubtedly the squirrel's agility, both on the ground and in the trees, is partially responsible for his competence in evading enemies.

Gray squirrels occupy a favorable position in the competition for food among forest game. As soon as the mast matures the grays are busily caching the winter's supply. Nevertheless, there are numerous other animals which are dependent to a lesser degree upon the same winter foods as the squirrel. Grouse subsist almost entirely upon a diet of hardwood buds and acorns during the winter. Wild turkeys and deer are especially fond of acorns which further complicates the food relationships. But perhaps the keenest rivalry for food originates from other members of the rodent family—flying and red squirrels, chipmunks and mice. This group of animals is relatively inconspicuous in the woods, but they are present in larger numbers than most people realize. It seems evident that when the mast supply is short the need of all forest inhabitants cannot be fulfilled, and the result will be fewer squirrels in the fall.

Discussion

Having considered some of the biology and habits of the gray squirrel it remains to view these forces in their entirety. Individually these factors may appear simple; collectively they become complex.

Why do some habitats support squirrels year after year while others are unreliable in this respect? Next time you visit your favorite squirrel woods see if a variety of tree species is present upon which they can rely for food. If there are several present this is probably the reason squirrels find it attractive year after year. Occasionally squirrels will. concentrate in isolated food pockets since there is a tendency to move about a great deal in the fall in search of food. But on the whole, mixed composition of tree species is the best solution to the food problem.

The numbers and condition of the breeding stock depend upon the winter food supply. A poor mast crop, or severe winter weather even with adequate mast, is reflected in a low breeding population and questionable reproductive success. Poorly nourished squirrels may starve over winter; those remaining will be forced to range farther to satisfy the demands of hunger; and a few additional ones will be taken by predators. Disease and parasites, while not normally important, may account for some deaths among the undernourished individuals. The breeding population will thus be reduced not only in numbers but in vigor as well. Litters will be smaller, and the young squirrels will be weaker because of nutritional deficiencies. Fewer squirrels in fall will be the obvious result.

An abundant food supply can reverse this situation. With a store of buried nuts and acorns the squirrels will be fat and sassy throughout the winter, and the litters will start life with the advantage of healthy parentage. This combination of events will lead to more squirrels for the hunting season.

Thus, food is the factor which decides whether hunting will be good or bad—and there you have it—in a nut shell! . . . *The End.*



Keeping Land Open to Public Hunting

The following article is a copy of the speech delivered by Bruce F. Stiles, Director of the Iowa State Conservation Commission at the 41st. annual meeting of the International Association Of Game, Fish and Conservation Commission in Rochester, New York, on September 11, 1951.

KEEPING land open to hunting is of importance in every State and Province represented at this meeting. This matter has increased in importance with the increase in population, and increase in the number of hunters. In some localities it has reached the proportion of the number one problem.

In presenting this matter I had seriously considered sending a questionnaire to all States and Provinces in an effort to gain information about the status of public hunting on private lands in other areas. I finally abandoned this thought as I am convinced that while the manifestations vary greatly as to localities, that the problem is basic and one and the same anywhere on earth.

In my home-town paper each evening there is a column by Dr. Albert E. Wigman entitled "Let's Explore Your Mind." It appears in a little block with a cartoon, and is syndicated. Undoubtedly, many of you have seen this. In this the author presents a question and then gives the answer. Not long ago he asked this question "What is the Best Way to Tackle any Problem?" This, in itself, implies that there is some similarity in all problems, and at least there is this similarity—that the best way to

tackle any problem is to reduce it to its fundamentals.

While the subject assigned to me does not specifically say so, I assume that I was to discuss only the problem of keeping privately owned land open to public hunting. If that is the case, the fundamentals are these:

We want to use something that belongs to someone else. That is true in Iowa, Ontario, Michigan, or Florida. It is quite likely true that in general the manifestations of this problem are more acute in densely populated areas; but, because I believe the problem is basically the same, I will tell you something about Iowa because I am most familiar with conditions in that State.

The problem of keeping private lands open to public hunting in Iowa is chronic but not acute. Back in 1936 we inaugurated a plan under which we set up game management areas, provided the land owner with trespass permit books containing blank permit forms to be filled out in duplicate. The thought was that the hunter would apply to the farmer for permission to hunt. The farmer would then make out a trespass permit in duplicate, issuing one copy to the hunter and keeping the other copy for his record.

For this trespass permit the farmer was entitled to charge a nominal fee, and it was our thinking that this added revenue to the farm, would induce the landowner to permit more hunting, and that the plan would provide an assured place for all sportsmen to hunt.

The plan was definitely a fizzle, and was abandoned completely several years later. The principal reason for its failure was that most farmers were willing to let their friends hunt without paying a fee, and that they did not want others on their place regardless of what they paid.

There are probably few places in North America with a smaller percentage of publically-owned land then Iowa, 97% of the entire area in the State of Iowa is in private ownership. Yet, it is not very difficult to find ample territory in which one may hunt in Iowa.

About a year ago Harold Titus, editor of Field and Stream, and former member for many years, on the Michigan Conservation Commission, came out to Iowa to do a little investigating on his own hook preparatory to writing an article on this matter. He spent some time here visiting widely separated sections of the State. His approach was to go into a farm house togged up in his hunting gear and present the question "What would you say if I, as a total stranger to you, would ask permission to hunt on your property?" Suffice to say that he was surprised at the ease with which he secured permission. That, you will agree with me, is worthy of considerable thought. Why was it easy for a stranger from Michigan to secure permission to hunt in Iowa when it is a foregone conclusion that he would have experienced a varying degree of difficulty in many other states. You may be sure that I gave that a lot of thought.

Here are some of my conclusions: Iowa is a farming State. It is peopled by farmers. Its society, industry, recreation and history are irrevocably tied in with agriculture. It has no large cities. 90% of the people who do not live on farms, have some farm connection. They were born on the farm. They have relatives on the farm, or they have close and intimate associations with farmers. They act like farmers; think like farmers; and talk like farmers. There is no clear-cut line of distinction between the city dweller and the farm dweller in Iowa. They read the same newspapers, listen to the same radio programs, and wear the same kind of clothing. They are not strangers to one-another.

There is little non-resident hunting or fishing in Iowa. The local sportsmen know the farmers' problems. They know how the farmer reacts to

things. It is almost exactly as they would react themselves. For this reason it is conceivable that the abuse of the land-owner's rights during the past several generations may have been less in Iowa than in many States. Certainly the abuse of the land-owner's rights must have been an important factor wherever privately-owned land has been closed to the hunter.

I doubt if it would be possible in Iowa to find an assembly of six citizens where at least one of them did not have an intimate acquaintance with one or more farmers.

It is the trait of human nature to fear or be suspicious of the unknown. A new dog in the neighborhood finds the local pack on his back the first time he ventures down the street. The new boy in school comes home the first day with a bloody nose; not because of any great fault on his part, but simply because the other kids at school were not quite ready to accept him until his newness wore off.

I believe it is a mistake for the hunter to expect the land-owner to accept him with open arms when he comes onto his land uninvited and unknown. Neither do I believe that he can buy himself in at a nominal fee. In America the sense of personal ownership in land is too deep, and too well cherished. Except for a considerable outlay of cash, money is no substitute for friendship.

I have a friend in Des Moines, Iowa, who is an insurance executive. His sole recreation and relaxation is quail hunting. He lives for it from one season to the next. He takes his vacation during the quail hunting season, and will hunt an average of twenty out of thirty days of open season. He never lacks for a good place to hunt, but he does not go about it in a haphazard manner. The first time I hunted with him we met in a little coffee shop early in the morning to have breakfast together. At the breakfast table he took out a little notebook. Its pages were filled with the names and locations of farms where he had permission to hunt. This was on the opening day. It was something new to me, and I asked him about the list. He told me that he had been the better part of the year acquiring it. He drove out into the country during the summer; made it a point to stop in, visit and get acquainted with farmers. He talked to them in the field and in their homes. He got names of farmers from his acquaintances and went to see them. By the time the season opened he had permission to hunt on many more farms than he could possibly cover. He had access to the finest quail territory and covers in the State. Over our coffee he finally decided on the first spot we would cover. I was interested in his technique. We drove into the farmyard and he went up and knocked on the door. When the farmer came out I could see that there was no indication of recognition in his face. He had said only about a dozen words, however, when a smile came over the farmer's face and he said "Oh yes, I know who you are. By the way I got your rain gauge, and we have all been interested in keeping track of the rainfall. Sure you can hunt. Go right ahead." As we turned to leave I saw tacked on the post by the well a little inexpensive rain gauge that probably cost 25c or 30c. My friend had mailed it to him some time during the summer, and there was no question but what the land-owner had appreciated the thoughtfulness of the act.

In Iowa we have a very small negro population. The negroes that are there are in the larger towns, and few farmers have any particular contact with them. This lack of familiarity has probably bred suspicion. One farmer told me this story: A number of years ago during the open pheasant season in Iowa, four negroes drove into his yard and asked for permission to hunt. He said "Of course I was a little suspicious of them, and

I turned them down." It was along in the middle of the afternoon, and they told him that since noon they had been going from one farm to another without success—that they had driven many miles for this hunting trip, which was their one hunting trip for the year, and yet they had not been able to find a place where they could hunt. The farmer was touched by this story and told them that if they would leave their car in his yard they might hunt. He said they were very well behaved, and at the conclusion of their hunting trip they thanked him profusely and went on. The farmer proceeded to forget about the matter, but about a week later he got a notice of an express package that was at the depot for him. When he went into town he picked it up and found that it was a hoop of Longhorn cheese that these colored boys had sent to him. His remark to me was "You know that was pretty thoughtful of them, and those colored boys can hunt on my farm any darned time they want to."

I know you will say that you do not live in Iowa, and conditions are not the same in your State. Yet, are they so different? Isn't human nature much the same the world around? It is not too difficult to me to guess at the complications of the problem adjacent to such large industrial areas as the cities of the East. Yet, I believe there is a solution. Certainly, we would not expect to go to a football game without making preparations long in advance to reserve a seat. Neither would we plan a trip to Florida or California without first making train reservations and hotel reservations and taking such precautions as were necessary to assure transportation and a place to stay.

I believe the day is past in the United States when ten million sportsmen can barge out into the country on opening day, and expect to find accommodations and a place to hunt without some previous preparation. Probably competition for certain types of hunting areas such as migratory waterfowl hunting spots will always remain high.

Hunting success hinges upon many things:—our ability to find game, the ability to hit it, and the necessity for proper equipment. Of equal importance is the necessity to have adequate areas in which one may hunt. This is by no means the least important. I do not believe that land owners will ever open up their arms to hunters collectively. It must be on an individual basis.

I believe that we, as administrators, have fallen down on the job if we do not get this story across to the sportsmen. This is as much of a problem of the individual as the development of his skill in wing-shooting. It cannot be accomplished overnight. The location of a place to hunt must be planned in advance. The landowner must be approached on a purely personal basis. Even in industrial areas there are many means that may be employed. Sportsmen planning trips some distance from home might start by corresponding with the local Chamber of Commerce, with ministers or teachers or public officials, to secure contacts with landowners. These contacts could be made months in advance.

Now, probably I am getting on thin ice to presume that I might tell any State or community how to go about it. That is not my intent, as I realize full-well that each locality has its separate problems, and they can be worked out best by the people who are there and understand them.

The point I want to make is this: Finding a place to hunt is an individual problem. Except for public shooting grounds, it is not wholly a problem of the State or Province. If we, as hunters, wish to be guests on privately owned land, we must act like guests; and even though it may involve a little social climbing, it is up to the individual to see that he is invited and made welcome.

. . . *The End*

Outdoor Reveries



By John H. Day

Vernal Awakening

A GREAT many seasons have come and gone since wise old Solomon looked out across the greening plains and sang: "Lo, the Winter is past; the time of the singing of birds is come." Across those same seasons countrymen have watched the vernal awakening, pinning it down with various homely signs and portents which have become firmly enmeshed in their native folkways. The legend of the groundhog, the first wedges of northing geese, the tangy aroma of burning sodland: these and many other promissory tokens have become identified with the return of another Springtime.

Good folk who spent their youth in regions where sassafras tea was taken every Spring to "thin the blood" know that appearance in the markets of bundles of the aromatic root bark of this fencerow denizen is an infallible sign that the frost is out of the ground. Sulphur and molasses usually preceded the fragrant tea by a week or two. Once purged of Winter's doldrums by a stiff course of this sulphurous mixture, ladled out in huge tablespoons, heavy doses of the red-orange tea followed as final conditioning for the carefree days ahead.

I made the acquaintance of the delightful sassafras brew many, many years ago. Privileged to carry the mattock and a couple of burlap sacks, I followed the lead of a favorite uncle across fields and fencerows until we reached a spot sufficiently isolated to conceal our nefarious activity. Here we soon exhumed the entire root systems of a number of sassafras seedlings.

With a hand axe I chopped those gangling roots into lengths to fit the burlap bags. We then headed for home, burdened by the sap-filled roots, together with a mattock which grew heavier by the mile.

Once in the cool confines of our cellar the roots were given a final scrubbing and then kept in a wash tub until used. With each decoction a sufficient quantity of root pieces was used to produce a dark colored brew with heavenly fragrance, and the tangy taste of the sassafras oil.

Now after many years as an eager amateur on the proper brewing of sassafras tea I recommend against using entire chunks of the spicy root. Instead of a wholesale boiling, with resultant heavy, reddish-orange tea, we have now switched to steeping a few pieces of the fresh root bark in the tea pot, pouring off the first cup when the color of a pale, weak Chinese tea. This procedure gives a truly delightful drink of delicate flavor, a native brew worthy of the finest drawing room.

The common sassafras was once known as the ague tree, since hot libations made of the bark induced sweating. In the South the leaves and twigs donate their mucilaginous substance to give flavor and consistency to gumbo soups. The wood makes good fence posts and country lads once sought out the sassafras for their fishing poles.

One of the most welcome sounds in the full outdoors repertoire is the musical gurgling of "thaw" water on that cloudless day when the February sun moves in close enough to break Winter's ice-locked grip. The countryman hearkens to this water music with delight, in the knowledge that it marks the end of one more of the tedious series of melancholy eras which must somehow be lived through before another "March with his gusty hammers comes knocking at our doors."

To be sure there will be storms and rumors of storms long after the February break-up, but try as they may, these late-Winter onslaughts are soon beaten off. The countryman figures that whatever happens from now on is simply a token rear-guard action. He notes the buds swelling in the thickets, hears the song sparrow chanting in the hazy dawn, and knows that the tide of battle has been turned and that if he can hold on but a few more weeks the woodlands will once more don their misty veil of shimmering green to welcome back another Springtime.

If you would make rendezvous with the advance scouts of Spring, seek out the southerly slopes and the valleys lying open to the returning sun. In the gloomy depths of the timberland the frosty air still nips at fingers and the coarse-grained snow complains underfoot. But on the southern facings it is a different story. Here the little feathered folk congregate in the genial sunlight to watch a Winter passing.

The sun was at noon height and working all-out when I headed over the hills for a short hiking foray. The objective for the day was a pocket full of the tight-wrapped cocoons of the wild cherry moth, and such other February fare as the wayside might afford. The mercury was heading toward the fifties and the gentle breeze from the southland was singing soft snatches of Springtime melody.

Sloping roadsides carried racing torrents of roily ice-water. As the sun struck home the ice pack which had threatened life and limb turned rotten and then disappeared in sparkling rivulets. The bare brown ribs of the open fields showed through the tattered remains of the melting white coverlid.

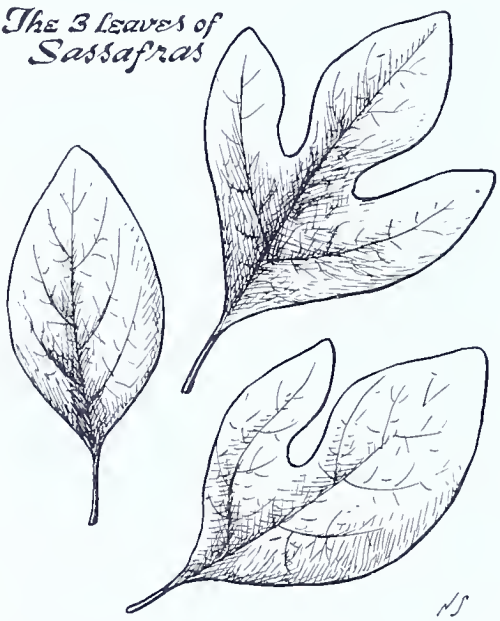
I moseyed along a wagon trail which slants along a hillside above the wide creek in the valley floor. A song sparrow jerked along before me with that peculiar pumping action of the tail which marks this bird in flight. A trim Cooper's hawk came out of a tangle of vines above me, circled slowly overhead and then moved off across the valley. This was probably the same bird I have seen on several recent occasions.

The wagon trace I was following slanted up across the hillside and lost itself in a broad upland field. The edging fence-row was choked with the shrubbery of wild plum, sassafras and wild cherry. Here I hunted for the snug cocoons, and in the next quar-

ter mile pocketed eleven good heavy specimens.

A good collection of the cocoons of the velvety wild cherry moth has become a Winter "must" in our household. They hang in a cold room in the cellar until the screens are up. Then they move into various points of vantage about our screened-in back porch. We get a tremedous thrill when the newly-emerged females bring as many as forty eligible bachelors swarming about the screens in the late June twilight.

Mid-February is a rather trying time for the countryman. It is a sort



of waiting period, between the passing of the Winter scene and the arrival of the first migrants to inaugurate the surging return of another green year. The hiking boots spend an idle weekend as the outdoorman loafs away the sunlit hours, happy among his seed catalogs and his fishing tackle.

The yearly bout with the seed catalogs is an important event in the countryman's life. As each new folder comes to hand, with its glowing language and seductive pictures, the gardening urge grows stronger and stronger. Finally the strain becomes too great, and during the barren days of mid-February, when woodland hikes are unproductive, great decisions are made and the seed order dispatched.

One of the joys of February is the annual spate of legendary lore concerning the weather-wise doing of Mr. Arctomys Monax, the ground hog. Candlemas Day belongs to the whistle-pig. None other of the Seven Sleepers of our countryside has achieved such eminence. Some day perhaps even the banks and public offices will properly recognize the importance of Ground Hog Day by declaring it a legal Holiday.

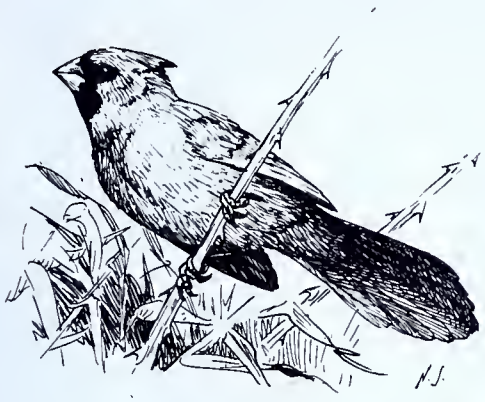
The Hoosier poet, back in the days when filling the woodbox was a chore indeed to the country lad, knew well how these young stalwarts felt about the woodchuck and the February 2nd fiction. Said he— —

> "Nothing ever made me madder
> Than fer Pap to stomp in, layin'
> On an extra fore-stick, saying'
> 'Groundhog's out and seed his shadder'!"

When the groundhog decides to make his home in the cultivated fields he can become a real pest, and his burrows a menace to livestock. Farmers say that he eats to get strength enough to dig, and then digs to work up an appetite to eat. This ties him down to a vicious circle of eating and digging and digging and eating.

As to his ability as a whether seer, so long as whimsical superstition is thoroughly in harmony with human nature who knows where his talents lie? There is no doubt that he does come out of his burrow on a warm February day and looks around, as his tracks prove; but he is not interested in his shadow. What he comes out to look for is the future Mrs. Woodchuck, and when he finds her he goes in again.

The cardinal grosbeak is near the peak of his flaming beauty when seen



in sharp relief against the February snow. I imagine his coloring is more vivid in late March, but there are too many other distractions at that time to give him the proper attention. In February he is the brightest figure in the thickets. A flock of several pairs of these birds flew up into the underbrush as I passed through their feeding grounds. The males stood out like glowing coals against the snow-covered hillside.

February brings the first nesting activity to the deeper woodlands. This is the month the big owls take over an abandoned crow's nest and set up chill housekeeping which often finds the sitting bird covered with snow as she keeps the eggs warm. Close on the heels of the owls the noisy crows suddenly quiet down as they go about the serious business of bringing some new mouths into the world, to be fed by many stealthy comings and goings.

The gray days of February are a necessary evil. During these final weeks of the Winter resting period dormant buds and shoots and rootstalks complete their battle plans. The warm rains of April will sound the battle cry and when another Maytime comes the green legions will overrun the countryside. Thanks to the gray days of February, these well equipped green legions are never supplied with too little, too late.

. . . *The End.*

ATTENTION, SUBSCRIBERS!

The change-over to the new addressograph system has been completed, and we heartily thank all our subscribers for their patience in tolerating the recent delays in mailing GAME NEWS.

With the installation of the new addressing system a streamlined method of handling expiration notices has been instituted. Instead of the usual notice stitched into the magazine, a post card will be mailed to the subscriber informing him of termination of his subscription. The desired length of renewal should be indicated by the subscriber in spaces provided for that purpose, and the card returned with the proper remittance.

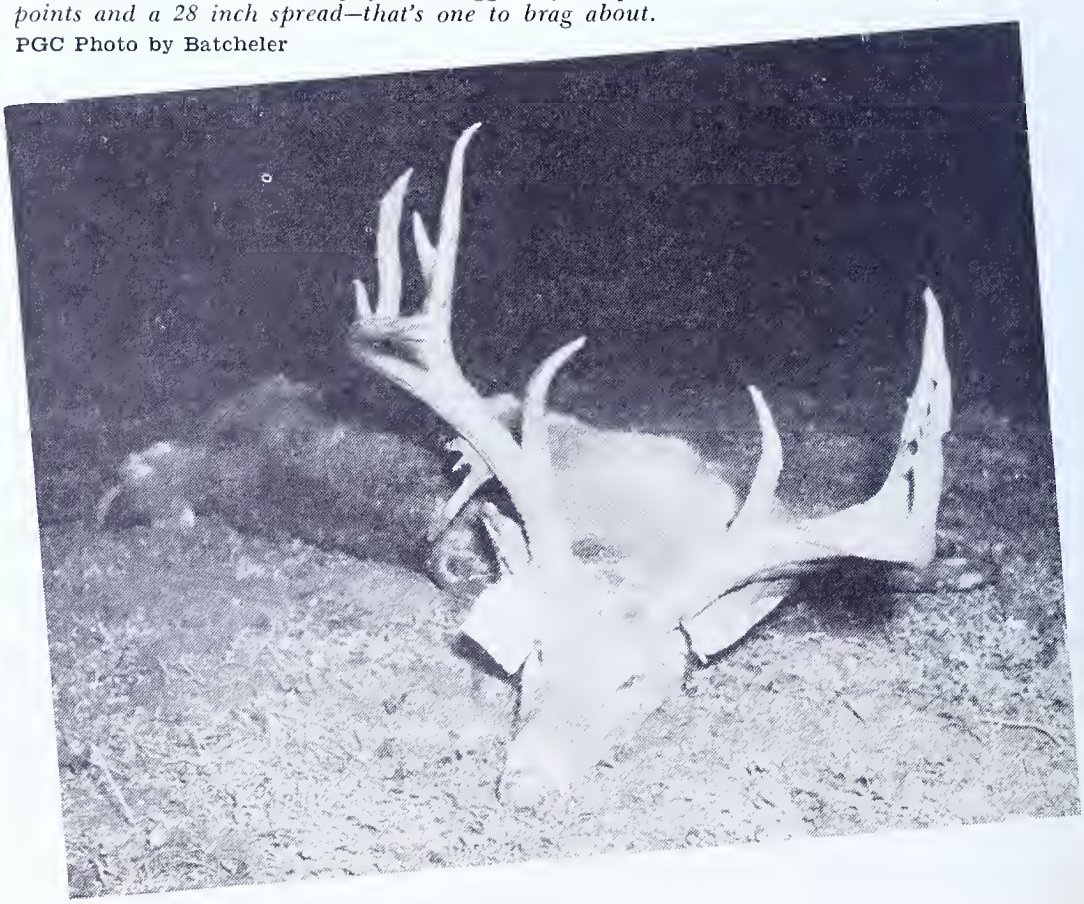
Readers will be notified *at the time of expiration* rather than two months in advance, as was formerly the practice. However, all plates will be retained for two months after the expiration date.

The new post card notices have several distinct advantages over the old type. Besides being more economical they are more convenient for both our subscribers and our circulation department. In addition, by referring to the name and address printed on the card by the same plates used in addressing the magazine all errors formerly attributed to faulty handwriting will be eliminated. Last but not least, the post card is not as easily overlooked as the old type stitched-in notice, and as a result fewer subscriptions will unintentionally be allowed to lapse.

Above—Talk about beginners' luck! These boys from Dallastown just finished building their camp in 1951 and put on their first real hunt the same year. Four of these nice bucks were killed by members who had never before seen a buck in season.

Below—This beautiful trophy was bagged by Ralph Landis, R. D., Port Royal. Nineteen points and a 28 inch spread—that's one to brag about.

PGC Photo by Batcheler



Highlights of the 1951 Deer Seasons

1951 was unique in the hunting history of Pennsylvania. For the first time, the sportsmen of the state were privileged to enjoy three separate deer seasons in a single year. They had the right to choose their weapons—rifle, bow and arrow, or shotgun with slugs. They could shoot either doe or buck as they preferred.

(Continued on Page 24)



PGC Photo by Batcheler

William Compton, Dallas, R. D., really got himself a big one on December 7. This beauty weighed 195½ lb. hog-dressed and his exceptionally symetrical antlers spanned 25½ inches.

Below—The guy on the right, George Giles, was the luckiest hunter in Ligonier Valley last season. His sixteen point buck tipped the scales at 170 pounds.

PGC Photo by Parlaman

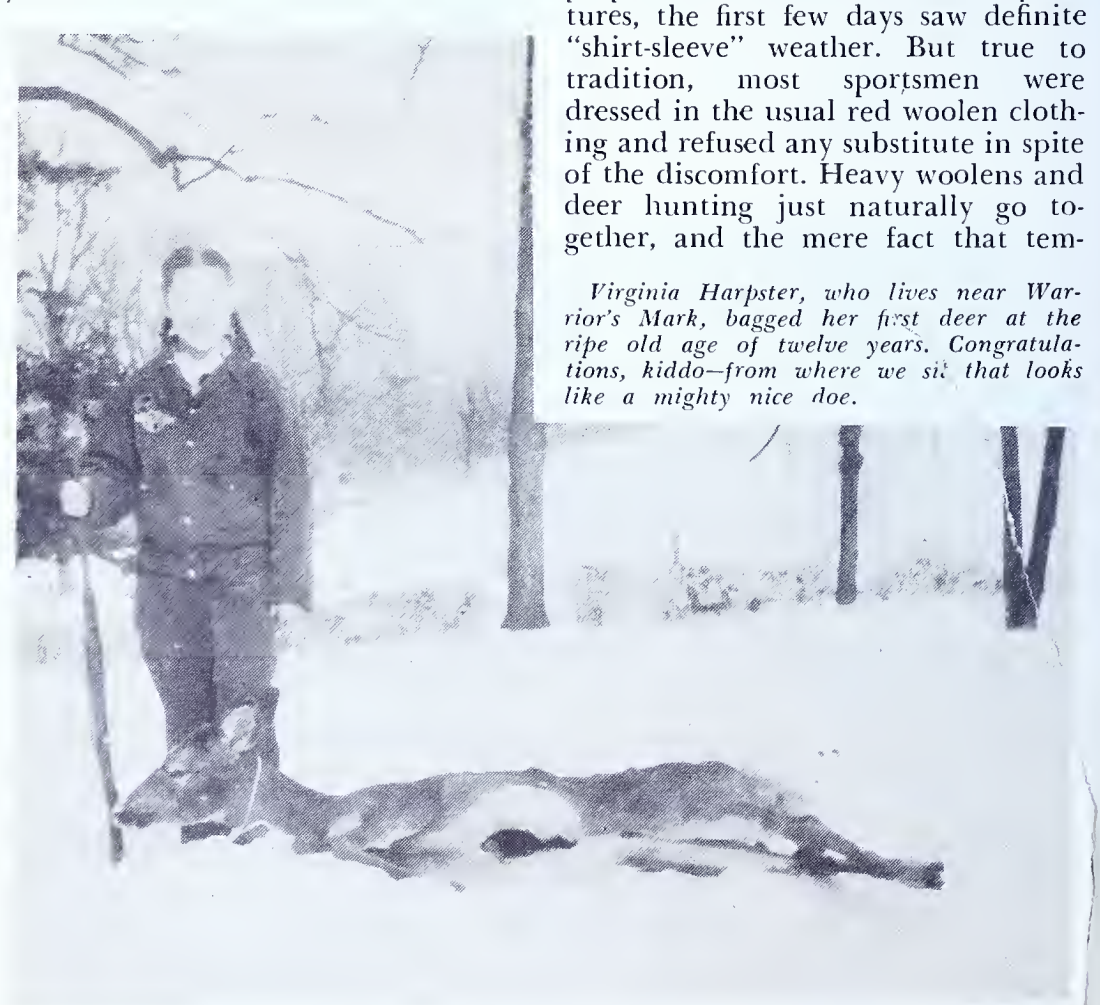


And they could even be selective about the time of year. Yes, this was truly a year of hunter's choice—a trio of season to satisfy the most exacting sportsman.

The deer harvest began with a two-week archery season in late October. Pennsylvania's first, it was a huge success in the number of enthusiastic bow hunters, many out for the first time, if not in the number of bucks killed. A few over 6,000 Robin Hoods stalked through the mountain forests of Pennsylvania attempting to emulate the prowess of their red-skinned predecessors on this continent. Only a handful were successful, 32 to be exact, but most agreed that success was secondary to the privilege of roaming through Penn's Woods during this most glorious season of the year.

Why did 6,000 archers kill only 32 bucks? Was it because the bow is not an effective weapon? No! Was it because the hunters were not good enough marksmen? Partially, but this was not the primary reason! The truth is that this was the first time that the deer met the deer hunters on nearly equal footing. During the regular seasons, there are usually so many men in the woods that the deer are at a tremendous disadvantage. No matter where they run, there is likely to be another hunter waiting. But during the archery season it was different. Most places a man was on his own—his wits against the deer's. It is obvious which came out on top!

The buck season, too, was different! Although it did not open until December 3 and the hunters were prepared for the usual zero temperatures, the first few days saw definite "shirt-sleeve" weather. But true to tradition, most sportsmen were dressed in the usual red woolen clothing and refused any substitute in spite of the discomfort. Heavy woolens and deer hunting just naturally go together, and the mere fact that tem-



Virginia Harpster, who lives near Warrior's Mark, bagged her first deer at the ripe old age of twelve years. Congratulations, kiddo—from where we sit that looks like a mighty nice doe.



Photo Courtesy Johnstown Tribune

Among the successful bow hunters were Bill Trimble (left) and Sam Komlenic, of Yukon, shown above with their hard-earned trophies. Game Protector Mosteller looks on as the happy hunters compare notes.

peratures were in the 60's and 70's did not alter this opinion in the slightest. During this period of delayed Indian Summer, small birds began to sing their mating songs, snakes and turtles emerged from hibernation, and even frogs were heard croaking in a few ponds. Many groups were forced to break camp in the middle of the week because the deer they had killed were beginning to spoil. Cold storage plants were full, and deer were piled like cord wood in some cold rooms.

Probably somewhere between 300,000 and 350,000 hunters turned out to hunt bucks, and preliminary estimates by the Game Protectors indicate that 25,000 or more legal antlered deer were killed. In the northern and



George Paskaitis, of Ashley, bagged this husky 180 pound 8 point buck during the special archery season. A single arrow shot from a 65 pound bow did the trick.



Photo by Diehl Studios

Fred Showers, of Biglerville, R. D., gives the younger hunters a goal to shoot at. On his 95th birthday Freddie shot an eight-point buck, his 60th deer in sixty-five years of hunting. Rumor has it he's going to try a repeat next year.

central counties where food conditions are unsatisfactory, quite a few bucks had shed one or both of their antlers before the season was over. Others, when shot, would brush off their antlers on the ground or nearby trees, and a surprising number of dead deer were seen with the "horns" tied around the neck.

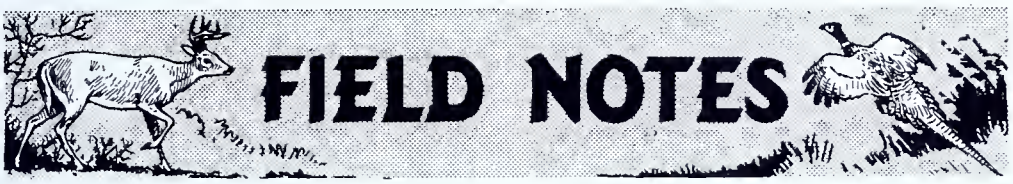
Hunters were of the opinion that the early cold weather in November was responsible for this premature shedding, but wildlife scientists have long since disproved this theory. After all, the deer in Maine, Quebec, and other northern areas may hold their antlers longer than many in Pennsylvania. And on the other hand, those in the southern states shed in mid winter. The real reason for early casting of antlers is poor food. Bald-headed specimens are not found in December in the counties surrounding the primary deer range where deer are less abundant and food is most plentiful.

The two-day antlerless season was a flop! The Commission had planned and hoped for a kill of 75,000 to relieve some of the strain on the over-browsed deer range and to reduce farm crop damage. But the Game Protectors estimate a harvest of only 30,000. This seems like a mere handful compared to the 172,000 taken in 1938 and the 146,000 killed in 1940, and it is. Protectors in the north-central counties speak of the 1951 doe harvest as a "drop in the bucket."

Probably about 150,000 hunters attempted to kill an antlerless deer, which means that only one hunter out of every five was successful. This success ratio probably would have been higher if the weather had been good for the full two days. But at noon on the first day, snow and rain began to fall and the hunters were soon sitting in their cars with the heaters going. The second day saw even more snow and bad roads, and those from long distance started home early for fear of being stranded in the mountains. Good weather could easily have doubled the kill!

The 1951 deer seasons are now history. But for many hunters, they meant new thrills, new experiences, new friends, and newly found contentment. Some hunted deer for the first time during 1951, and several thousand more laid aside their rifles to try a new art—hunting with the bow. To the veteran deer hunter, this season meant another week or two in the mountains in pursuit of his favorite sport—the culmination of months of planning and dreaming. ***But now, bring on 1952!***

. . . *The End.*



"Poler" Bear?

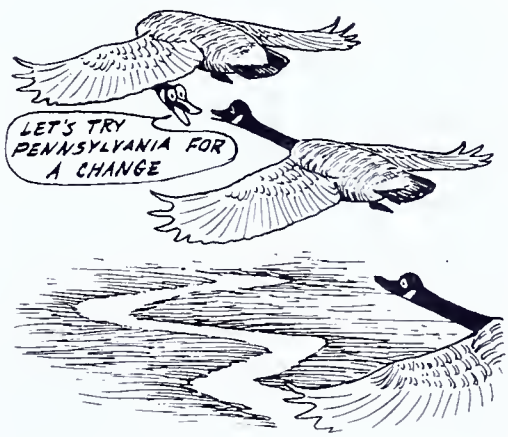
LEWISBURG—One evening last fall I received a call that a large bear had been found dead. With Food and Cover Copsman Hoffman, we went to investigate and found a bear weighing about 300 pounds. We brought the carcass in and as it showed no marks that should have caused death it was decided to have him skinned. Even this shed no light on the cause of death as only a small bruised area on the head and neck appeared. Some time later the area where he was found was checked again. About six feet from where the bear had lain was a power line pole. On this the deep scars left by Mr. Bruin's claws showed plainly. From this we reasoned he must have heard the humming of the wires, and believing it to be bees, scaled the pole to investigate and getting against the wires was either electrocuted or killed by the fall from the pole. District Game Protector John S. Shuler, Lewisburg.

More Snowshoes

BLOOMING GROVE—Snowshoe rabbits are making quite a comeback in this district. Pike County has a lot of swamps and heavy laurel patches and furnishes the cover needed by the snowshoe. This season we had a lot of snow and the hunting was very limited. Most of the swamps in my district are inhabited by snowshoes, although they are not very plentiful. However, I have reports that some of the areas in which they are now found did not have rabbits in them before. District Game Protector Albert J. Kriefski, Blooming Grove.

Geese Off Their Course

LINESVILLE—Three Hutchins or Richardsons geese were killed as they flow out of the refuge. These geese are a subspecies of the Common Canada geese, and I have never seen or heard of any record of them here in this section before. They nest in the Artic region and migrate through the Mississippi valley and the Dakotas to the eastern shores of Mexico, where they spend the winter. Apparently these three were off the regular migration course. Their appearance might indicate that a greater portion of the geese that visit Pymatuning return to the Mississippi flyway instead of going to the eastern coast. Banding of wild ducks at Pymatuning has proven that a great many of the puddle ducks leave the Mississippi flyway and come to Pymatuning, then swing back to the Mississippi river and winter in the southern midwest states. This might also be true of the geese. District Game Protector Raymond A. Sickles, Linesville.



Turkey Starves With Full Craw

PHILIPSBURG—One Sunday while on foot patrol on State Game Lands 33, I saw a turkey in a food plot on the Game Lands that was acting queer. The turkey tried to run as I approached, but all it succeeded in doing was fall down and try to get to its feet. I picked up the turkey and was surprised to find that it weighed only about 6 pounds, although it had the frame of a twelve pounder. I took the bird to my headquarters and put it in a cage with some food and water, but before retiring that evening I found him dead. Curious as to why the bird should be so light and showing no sign of disease, I dissected him. The craw was stuffed to capacity with grasshoppers, oats, wild cherries and smaller insects. The gizzard was abnormally large, about half again the size of a normal gizzard. Lodged partly in the gizzard and partly in the intestines was a .30-06 case. The bird had no food matter in the intestines at all, the intestines were completely collapsed. The bird had starved to death at a time of the year when food is plentiful. District Game Protector Robert Spahr, Philipsburg.

Trappers Going Squirrelly

GELATT—Reports from farmers trapping rabbits on Propagation Areas in this district indicate that the red squirrel is on the increase. These small rodents are quite troublesome to the box trapper. The squirrel catch each night by far exceeds the rabbit catch. If left in a trap long enough, they will invariably gnaw a hole the size of a half dollar in the door and make good their escape. One trapper told me that on the night of December 30, red squirrels had sprung 16 of his 20 traps. District Game Protector Donald G. Day, Gelatt.

Nail Heads to Fox Heads

WYALUSING—On December 10 I received a call from Mr. Max Gannon of Wyalusing reporting the killing of a supposedly rabid fox. Mr. Gannon had been in a chicken yard wire enclosure, nailing some paper on



the coop. He heard a growling noise outside the enclusure, and it being too dark to see clearly, he decided to come out from the enclosure and investigate. Upon opening the door, he noted a gray fox sticking its head through the partially open door. Mr. Gannon quickly closed the door on the fox, catching its head in the doorway. He then hit the fox over the head with a hammer which he was still holding in his hand, battering the fox's skull rather badly. On examining the fox, it was found to be in good condition, unlike a physically poor rabid fox. No doubt the fox was after the chickens and ventured into the wrong garden. District Game Protecor Norbert J. Molski, Wyalusing.

Deer a Highway Menace

EMPORIUM—There are so many deer being killed on the highways in Cameron County these days that they have become a public nuisance and

a menace to travel. During October I picked up 54 deer killed in my district by cars and trains. On the morning of October 22 I picked up 9 deer killed the night before. One morning this week I picked up 5 deer killed in the borough of Driftwood by trains the night before. It has gotten to the point that I am half afraid to answer the phone for fear that someone is calling to report that there has been a fatal car accident on one of our highways caused by a deer—at least that is the complaint I receive when an angry motorist calls me and wants to know what we are going to do about his new car that is damaged.

I traveled 604 miles this month just picking up dead deer and if it was not for Deputy Joseph Zekoll from Sinnamahoning volunteering to pick up the deer in that section of the county, I would have traveled twice as far as I have the past thirty days. District Game Protector Norman L. Erickson, Emporium.

Dead Shot

TOWN HILL—John Beresky of Brooklyn, New York, has the sympathy of most deer hunters around Town Hill section. He had been scanning the ridges and hemlock trees with his field glasses when he suddenly spots the antlers and large body of a deer lying underneath a hemlock tree. Thinking the deer was sleeping, he quickly picked up his rifle and fired three shots at it. The deer did not move. John ran through the woods to get his prize kill only to discover, to his amazement, that he had shot a deer that had been dead for about three days. John, however, did haul the deer out the woods and notify me through Deputy George Beresky, Jr.

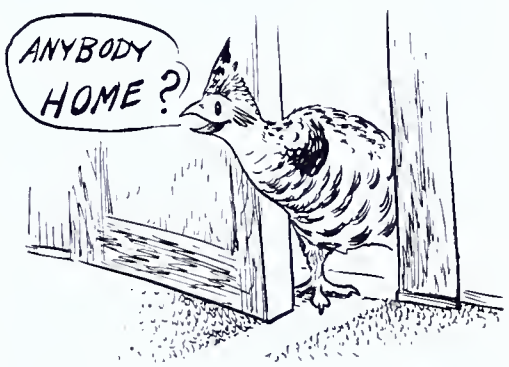
The outside spread of the antlers measured 23 inches, the longest point being 9 inches in length. It had a total of 11 points. District Game Protector George A. Dieffenderfer, Wyoming.

Welcome Strangers

PHILIPSBURG—The turkeys were very tame and easy to approach for about two weeks after release. They all worked in with native birds, however, and seemed to get as cagy as the natives. I saw the meeting of a recent stocked flock and a native flock on one of the food plots on SGL 33. The flocks met with outstretched necks and quite a bit of fuss. After a bit of flailing on both sides, they mingled with one another and started feeding in the food plot. One of my deputies reported the same kind of action between two other flocks on another part of the Game Lands. District Game Protector Robert H. Sphar, Philipsburg.

The Home-Lovin' Type

OIL CITY—Received a call from a Mr. Hankie on Highland Avenue, in Oil City, that he had a grouse. Upon arriving there this is the story that was related to me. This grouse came up on the back porch, and into the kitchen through a hole in the screen door. It continued on its way past the lady of the house who was ironing; on through a hallway and into the bathroom, where it hopped upon



a clothes hamper. Mr. Hankie picked up the bird and called me. When released it seemed very glad to be free, and took off at full throttle. District Game Protector William Shaffer, Oil City.



Snakes In December

BELLWOOD—On December 3, 1952, at about 2:30 P. M. in the Van Scoyoc Hollow at the Blair-Centre County line, James C. Freeman, Jr. killed a large rattlesnake.

The snake had twelve rattles and was just over three feet in length. Oddly enough, it was greenish khaki color.

Mr. Freeman was driving deer when he heard the familiar buzz. It struck once but seemed pretty sluggish. Although it was in the low twenties the night before, it had warmed up and was about seventy degrees in the sun where the snake was lying. District Game Protector Dean M. Crooks, Bellwood.

Meanest Hunter

BOILING SPRING—One of the causes of additional farms being posted each hunting season occurred in my district during the past small game season. During the absence of the farmer and his family, a hunter shot and killed the large turkey which the farmer was fattening for his Thanksgiving dinner. The shooting took place just outside the barnyard and within a safety zone.

Although the offender was finally apprehended, fined and paid the farmer for the turkey, the land is now posted. This particular farm provided some of the best hunting in my district prior to this happening, but the farmer can hardly be blamed for closing it to public hunting after this experience. District Game Protector Homer H. Thrush, Boiling Springs.

Doe in a Jam

MARIENVILLE—During the first week of the Archery Season, three archers were hunting in Rocky Run and came upon a doe deer that had fallen down a crevice between two large rocks and was wedged in there. They contacted me and together we went up and got the deer out. However, I had to dispose of the deer, as she had her back and three legs broken, and was badly skinned; apparently she had been in the crevice for a few days. District Game Protector George Miller, Marienville.

No Pushover

CREEKSIDE—Some time ago Harry Stinson of R. D. Creekside, Penna., called and said he wanted to see me. Deputy Sweeney and I went to the Stinson farm and he showed us a Red Tailed hawk that he had in a box and told us the following story: One evening he happened to look down in the field about one hundred yards from the house and saw something moving around. He went down to get a better look and found a black snake and a Red-Tailed Hawk in a death struggle. Picking them up and carried them back to the house and put them in front of the car headlight and took a picture of them. He then killed the snake which released the hawk. I turned the hawk over to Mr. Parlaman. Mr. Stinson said that the snake would have killed the hawk if left alone. District Game Protector Bruce W. Catherman, Indiana.

Juniata County

Named For a Picturesque River

Eighteenth In A Series

Note: This center sheet can be removed if desired, without damaging the magazine, by loosening the two center staples.

Named for the beautiful Juniata River, Juniata county was formed from a portion of Mifflin county in 1831.

Land Area

The county contains 247,872 acres, of which 135,097 acres are forested and 112,775 are non-forested. Publicly owned land comprises 16,343 acres, of which 6,828 acres are in Game Lands and the remainder in State Forest Lands.

Topography

The county is traversed longitudinally by mountains interspersed with long, rich, trough-like valleys. The Juniata River cuts through its center. Other principal streams include the Tuscarora Creek, West Mahantango Creek, Cocolamus Creek, and Licking Creek.

Transportation

Rail transportation is furnished by the main line of the Pennsylvania Railroad. The William Penn Highway (U.S. 22) and other routes traverse the county, which has 277 miles of improved State highways.

District Game Protector

O. E. Seelye, Box 102, Port Royal, has jurisdiction over the entire county.

Fish Warden

C. V. Long, East Waterford.

Agriculture

The narrow valleys are utilized in dairying, poultry-raising, fruit growing and general agriculture.

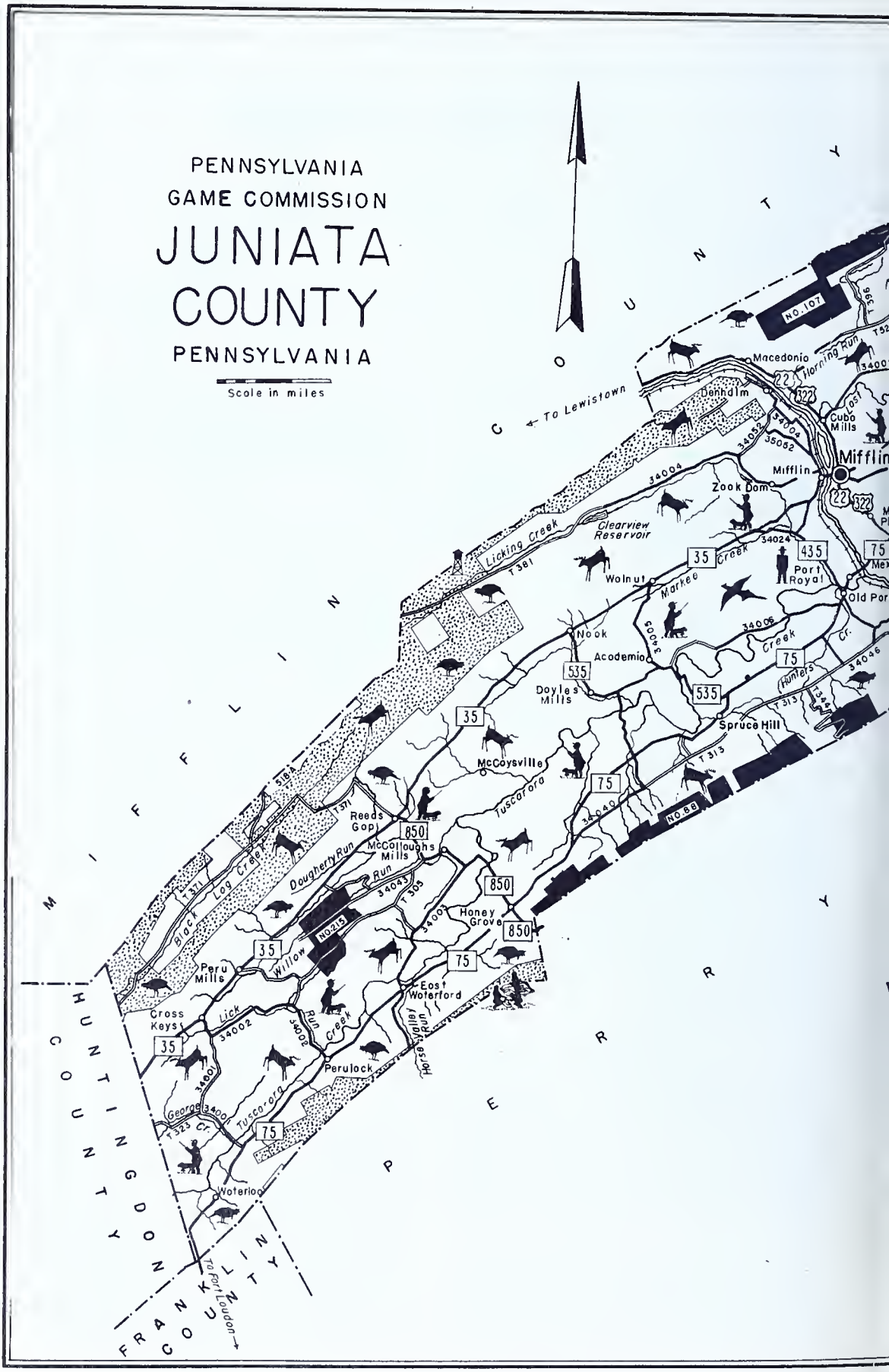
Industry

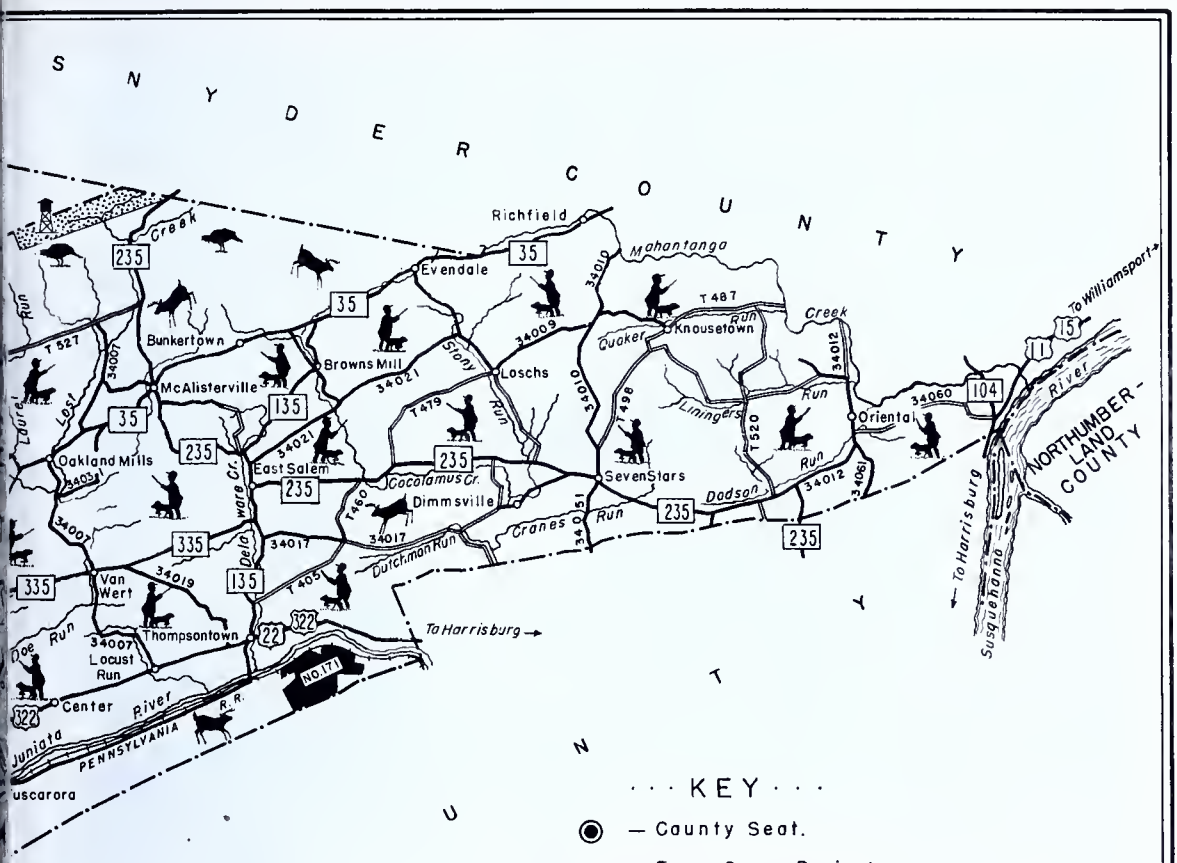
Principal classes of industry are food and food products, textile and textile products, and clay, glass and stone products. Chief products are men's shirts, ganister brick, condensed and evaporated milk, and grist mill products.

Historic

Due to the ease of access by water on the Juniata River the region was settled as early as 1748, but Indian troubles prevented permanent settlement until 1764. The Indians who held title to the land protested the presence of the whites, and Richard Peters, secretary of the Province, evicted the squatters in 1750. Four years later the Proprietors purchased the land from the Six Nations, but the Delawares, who had previously used the land for hunting resented the sale, and joined the French in making war on the Province.

The first Indian attack in the county took place in 1756 when a group of Indians came down Delaware Run and killed the wife of Hugh Mitcheltree at Thompsontown and several other settlers. Two months later Mitcheltree himself was carried off by another war party. On June 11 a band of Delawares wiped out the settlers at Fort Bingham in the Tuscarora Valley, burning the


PENNSYLVANIA
GAME COMMISSION
JUNIATA
COUNTY
PENNSYLVANIA
Scale in miles
MIFFLIN COUNTY
HUNTINGDON COUNTY
FRANKLIN COUNTY
PERRY COUNTY
To Lewistown
To Port Royal
To Fort Loudon
Macedonio
Thorning Run
Denholm
Cuba Mills
Mifflin
Zook Dam
Clearview Reservoir
Licking Creek
Walnut
Markee
Port Royal
Old Port
Nook
Academia
Doyles Mills
Spruce Hill
McCoysville
Tuscarora
Reeds Gap
McCullouchs Mills
Dougherty Run
Black Log Creek
Honey Grove
Willow Run
Peru Mills
Cross Keys
Lick Run
Perulock
Horse Valley Run
East Waterford
George Run
Waterloo
NO. 107
NO. 88
NO. 215
T 391
T 371
T 313
T 325
T 305
518-A
22
322
35
75
435
535
850
34004
34024
34006
34046
34049
34043
34002
34001
34000
35052



· · · KEY · · ·

- ◉ — County Seat.
- — Form-Game Project. (Open to Hunting)
- — State Forest Fire Observation Tower.
- — Game Protector's Headquarters.
- — Deer Hunting.
- — Wild Turkey Hunting.
- — Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- — Railroad.
- — Township Road. (Route T-527)
- — Stream.
- — State Forest Land.
- — State Game Land.
- 518A — Primary State Game Refuge.
- — State Park.
- 35 — Pennsylvania State Highway Route Number.
- 22 — U.S. Highway Route Number.
- 34017 — Legislative Route Number.



L.A.M. 1952

fort and killing or carrying off more than twenty persons.

Following these raids the whites fled the country and did not return until a year later. At the start of Pontiac's war in 1763 they once again fled the county. Those who remained to harvest their crops were attacked and most of them killed. This was the last Indian attack in Juniata County; the settlers lived in peace thereafter.

One of the first companies to volunteer in the War of 1812 was the Thompsontown Patriotic Blues, led by Captain John McGary. Captain McGary's Inn still stands in the square in Thompsontown.

Early industries established on the county's streams included an iron forge, built in 1791 on Licking Creek, a grist mill established on Delaware Creek in 1790 and a paper mill constructed on Licking Creek in 1817.

A school was established in Mifflintown before 1795. Tuscarora Academy was opened in 1839 at Academia and a soldiers' orphan school was established at McAlisterville in 1863. The county's first churches were built in Academia and Cedar Spring in 1767. Construction was begun in 1762. but was halted at the outbreak of the Indian Wars.

Recreation—Hunting

Juniata county enjoys good deer hunting in the mountains. Turkey hunting, although not as spectacular as in years past, is still good in some sections. Rabbit hunting is generally excellent and other small game is found in fair abundance. State Game Lands in the county and the areas of each are as follows: Number 107 comprising 2,080 acres; Number 88 comprising 2,776 acres; Number 171 comprising 709 acres and Number 215 comprising 1,263 acres.

Recreation—Fishing

Fishable waters (name of stream or lake, fish stocked, location and length or area of stock waters) include: Big Run, brook trout, Mifflintown, 3 mi.; Delaware Creek, brook trout, Thompsontown, 2 mi.; Horning Run, brook trout, Cuba Mills, 3 mi.; Horse Valley Run, brook and rainbow trout, East Waterford, 3 mi.; Liberty Valley Run, brook trout, Honey Grove, 3 mi.; Licking Creek, brown trout, Mifflintown, 5 mi.; Lost Creek, brook trout, McAlisterville, 7 mi.; Willow Run, brook trout, Honey Grove, 7 mi.; Juniata River, black bass, Mifflintown, 21 mi.; Tuscarora Creek, black bass, Port Royal, 16 mi.



Tough Targets

By R. S. Bell



ALMOST two hundred yards away on an ice-covered island in the Susquehanna River four soot colored crows searched for food among the frozen scrub willow bushes. I studied them for a few moments through the Zeiss binoculars then nodded at my companion, Andy Hufnagle, to take the shot.

Slowly he dropped into a squatting position and rested his left hand against the trunk of a tree, squirming around a little to get a solid position. As I watched through the glasses I heard him take a deep breath and leave out half of it, then, for a split second there seemed to be absolute silence, everything frozen motionless in the cold winter air. The next second one of the crows exploded in a burst of feathers as the report of a high-velocity .22 rifle whip-lashed through the stillness and the remaining crows rocketed into the air with wildly beating wings, circling fiercely and trying with frenzied calls to rouse the dead one.

We were well screened by some low pines and hadn't been seen or they wouldn't have remained in the vicinity for a moment. Now, as we waited, their calls summoned a flock of the black rascals and, after a slight investigation, several of them landed. "You take the one on the dead branch," Andy whispered, "and I'll try for the one a couple feet this side of him." I nodded agreement and shoved my arm through the sling and closed the bolt on one of the deadly little cartridges. Through the twelve power, large objective scope I could make out the eye of my intended victim. The crosshairs settled on his shoulder, moving slightly from my heartbeat, and followed him as he edged along his perch. Both shots went off as if by a single trigger and I had a mental picture of a bursting crow as the recoil kicked the scope off aim. "Two dead ones," Andy chuckled, "and the rest of 'em are leaving." He was right. We had both connected, as the black bodies on the snow testified.

We got to our feet and pocketed the empty cases for reloading. "Guess we might as well move on," I said. "They won't be back for a while." Andy nodded and slung his rifle over his shoulder as we moved out through the pines.

The day was clear and cold with considerable snow on the ground which provided a good contrast with the varmints we were after. The Pennsylvania deer season had ended a few weeks before and now, with that pleasant interlude successfully ended, we were back gunning for our favorite targets. Of all the types of shooting available to the gun crank that of varmint shooting with a rifle tops the list with us. Sure, we like to sprawl out in a prone position and try to chew the 10 ring out of the small-bore target with a heavy barrel 52 Winchester, and trying to outguess an old white-tail buck among the ridges and ravines of Potter County is an experience that will not be forgotten. But for shooting which requires even closer holding than small-bore targets and at least as much luck as deer hunting we have found nothing to compare with the crow.

The common crow seems to abound almost everywhere. Whether this is due to the fact that he's hard to kill or because few shooters try for him, we don't know. One thing is certain —he can be a most frustrating target for a rifleman. If there is anything that can take the wind out of a shooter's sails more effectively than this black outlaw I've never tried for him. Much has been written about the woodchuck as a hard target to connect with a long range, and he undoubtedly is; but pull the feathers off a crow and you'll find a body no more than one-fourth the size of a 'chuck.' The largest aiming point is the shoulders which are no more than two and one half inches in depth. Just imagine a baseball-size target in the top of a tree two hundred and fifty yards away with a light breeze moving it back and forth in a small arc and you'll understand why we nominate the crow as the rifleman's hardest target!

Perhaps that's one reason we get such a kick out of hunting them for any shot that connects is worth bragging about just a little and, more important, saves an untold number of pheasants, grouse and song birds for the crow is a great destroyer of eggs. Over a period of time a flock of crows can do considerable damage to crops, too, and for this reason almost all farmers will allow their shooting provided common sense in the use of firearms is shown.

With their high intelligence it is difficult to get within close range of these black robbers; therefore, with a target of small size to be hit at long range, a shooter needs a rifle using a cartridge of flat trajectory, low recoil, moderate report and, most of all, superb accuracy. After trying a variety of rifles ranging in caliber from the .22 rim-fire to a few shots tried with the big .300 H and H Magnum we have come to the conclusion that the center-fire .22 loads are best. They come nearest to filling all the requirements and their exceedingly high velocity makes them the safest to use since it eliminates almost all ricochets. With any type of load, however, some shots will have to be passed up, perhaps because there is no backshop for the bullet or due to nearby livestock. Whenever there is any question of safety it is better to skip the shot than take a chance. There are lots of crows but cows cost money!

At this time both Andy and I are using rifles chambered for the wildcat .22-250 cartridge which normally uses a 55 grain jacketed bullet at about 3700 foot-seconds. With their heavy target weight barrels and twelve power scopes these outfits will consistently kill crows to better than two hundred yards if we do our part. That's a big *if!*

While we studied the snow covered fields and woods around us a large, gray hawk rose from a walnut tree near us and gained altitude with swift, strong strokes. We watched silently until he circled high above us, silhouetted against the sky, a living example of the almost perfect hunter, then continued across the field.

As we worked over toward the river again I spotted a crow high on a dead chestnut tree. He was a long way off but I decided to try for him. With the range doped at a little over three hundred yards I sat down and rested the back of my hand against a tree. When the cross-hairs were about six inches above him I touched the trigger, the gun cracked—and the crow flew away! I miss lots of 'em!

Returning to the car we unloaded the rifles and drove toward Catawissa. Several miles before reaching there the road leaves the river and there is a corn field between it and the trees lining the river bank. There are often crows feeding there and this time was no exception. We knew they would fly as soon as the car stopped but sometimes a few will land in the trees or on the railroad tracks offering a shot if one hurries. Andy hurried! In fact, he was out of the car loading his rifle before I had fully stopped. As expected, most of them flew but he caught one of them on the ground at about one hundred and thirty-five yards and anchored it.

We crossed the bridge into town and turned back down the opposite side of the river. It was getting late so we were going too fast for good observation and almost passed a big crow in a cherry tree halfway down a fence row. I had the scope on him and was just easing off the shot when he took off leaving me with a loaded rifle and a foolish feeling. I was opening the bolt to remove the cartridge when I saw another one sitting in the same tree. A quick shot dropped him nicely and returned my good humor.

It was getting late by now so we hurried toward Danville. I was satisfied to call it a day after that shot but Andy spotted a couple which hadn't gone to roost yet. "Let me try one more before quitting," he said. Maybe it was too dark or maybe he hurried too much. Anyway, he missed.

"Should have quit while I was ahead," he grinned. "Guess it wouldn't be very interesting if we hit them all, though. But there sure doesn't seem to be much chance of ever getting that good. Crows are tough targets!"

. . . *The End*

NEW WILDLIFE BOOK FOR FARMER

A well-illustrated booklet designed specifically for farmers interested in improving their lands for increased wildlife production has been released by the Soil Conservation Service of the U. S. Department of Agriculture, according to the Wildlife Management Institute.

Under SCS farm planning, certain areas on each farm usually are designated "wildlife lands" which are not adapted to crop production but are well suited to the production of useful birds and mammals. Management practices which may be applied to these areas or which fit neatly into approved management plans for cropland and woodlots also are described, and in most cases the farmer who follows the recommendations will find his farm increasing in value, attractiveness, and productivity.

The construction and management of farm ponds, the improvement of marsh areas for increased waterfowl production and supplementary income from muskrats are described. This capsule course in wildlife management may be obtained by sending 15¢ to the Superintendent of Documents, Washington 25, D. C., or from the offices of soil conservation districts and the Soil Conservation Service.

Reload to Keep Shooting

By Ed Shearer

PART V

A LONG time ago back in the stone age it seems two long-haired characters argued over the division of the remains of a four-toed horse. The larger long-hair proceeded to back up his theory of division by force, which left the smaller long-hair in a sad plight. If he got near the exponent of "might makes right" he would promptly have his brains knocked out. His problem was to put the king size long-hair "Hors Du Combat" by remote control. The remoter the better.

Possessing an active brain which small men have to acquire for survival, his eyes lighted on a prime-sized stone which started a train of thought. Stooping quickly he grasped the aforesaid dornick and made him the smote of smotes on the noggin of the long-haired hombre, laying him cold—thus proving that Col. Colt was a few thousand years late in his claim of making all men equal.

Further he started an argument which is still going strong thousands of years later. He invented the first projectile and instituted ballistic research at the same time. Probably the first big ballistic argument was which was the most effective, a big gooney thrown with a slow heave or a small dornick with a snappy swing?

The debate is still going strong except that our rocks are made of lead and metal and we throw them out of a contraption we call a gun. But one thing that has stood the test of time is that the projectile itself is the most important component of any of the agencies that propel it, for it is the projectile that determines the accuracy of its flight and accomplishes the damage desired by the firer.

So in this day and age the shooter has a wide choice of projectiles or bullets that, with intelligent selection, will produce any desired result, no matter if he favors the slow heave, the snappy swing, or something in between.

Today we classify bullets into two groups, the lead bullets and the metal-jacket bullets. Most factory loaded center-fire rifle ammunition is loaded with metal-jacket bullets while most pistol ammunition is loaded with lead bullets.

This should not be taken to mean that lead alloy bullets are any less effective than they always were, but rather pressures and velocities have passed their melting point in modern loads. In fact within their velocity range they are as effective as metal jacketed bullets and are lots easier on the rifle barrel and the pocketbook. So, taking into consideration the average shooting conditions today, we find that the lead alloy bullet is far from obsolete, although the correct methods of selecting and casting them are unknown to many shooters of today. In view of the present scarcity and high prices of factory bullets it is very essential that the beginner in handloading should have a good knowledge of lead alloy bullets, their capabilities and how to cast them.

The least expensive bullet is the plain lead alloy with the plain base. It has one or more bands or grooves to hold the lubricant which helps to prevent leading of the barrel.

There are many different types, weights, etc., so selection is somewhat of a problem.

The question of the number and size of the lubricating grooves is of

primary importance. There are many different opinions but the choice seems to depend on the caliber used, the velocity planned as well as the rate of twist and the barrel it will be used in. Most standard bullets on the market today have been widely shot for some years and may be considered generally good.

Grease grooves and driving bands have certain requirements as to width. They should be nearly equal in area although a slightly less lubricating area will work alright at normal velocities. If the driving bands are too narrow it limits the loads to low velocity as they are apt to strip the rifling. The same is true if the lubricating grooves are too deep. This tends to make the driving bands too high, and the rotational twist imparted by the rifling, added to the resistance of the bullet to its inertia, tends to tear down these weakened bands. Stripping is the usual result. As to number of grooves there are different opinions, but I like mine wide and shallow as they give me better performance at high velocity and considerably less trouble from leading. The grease grooves should be just deep enough to show lubricant remaining in them on recovered bullets.

Some bullets have flat bases and some have bevel bases. However, as most molds are generously over-size, most bullets come out of the resizer flat anyhow. Bullets with sharp square corners in the grooves and driving bands will perform equally as well as bullets with rounded corners.

The plain lead alloy bullet has quite a wide field of usefulness ranging from cellar loads to small and even big game loads. It is generally cast of soft alloys as it can only be driven at the lower velocities. The one exception is when it is used for high velocity loads in revolvers when a hard alloy is used.

The gas check is by all odds the most important advancement in the lead bullet field. It is a small copper cup designed to fit over the base of the bullet used with smokeless powder, to prevent hot gases from melting or fusing their bases. This invention of John Barlow's many years ago made possible the driving of lead bullets at velocities that are much debated even in this day. The old standard from the ballistic laboratories runs like this, "A plain alloy bullet with an unprotected base cannot be driven at a velocity greater than 1800 feet per second without stripping of the rifling. No gas check bullet will stand more than 2000 feet per second without stripping. Even the latest Ideal hand book states that gas checks may only be driven 200 or 300 more feet per second than the plain base bullets.

These statements, although perhaps true with the plain base bullets, are not in accordance with the facts regarding gas checks. Many years ago I was experimenting with the then new Winchester .270 caliber. One B & M gas check bullet gave a particularly snappy load with fair accuracy. Through the good services of a friend DuPont chronographed this load, giving an average velocity of 2260 feet per second. This load gave absolutely no leading and recovered bullets showed no signs of stripping.

Capt. Phil Sharpe, in his great book, relates several instances of driving the 169 grain gas check bullet at 2600 feet per second, getting a pressure of 44,300 pounds with 39 grains of Hi Vel No. 3. Another interesting note is that with the Winchester .33 caliber a 195 grain gas check bullet was pushed up to 2425 feet per second with good accuracy and safe pressure. This velocity is much higher than the standard factory load 200 grain metal jacketed bullet. Mr. L. C. Weldon, a ballistic engineer of Hercules Powder Company, writes of some experiments along these lines with the 30-06 cartridge. He states:

"In the .30-06 cartridge we have

made a number of tests with the 169 grain lead gas check bullets obtaining velocities around 2600 feet per second. We have never noticed any stripping or signs of undue leading of the barrel at these velocities. Recently we received some ammunition from a handloader which included some .30-06 loads of 140 grain gas check bullets and 45 grains of Hercules Hi Vel No. 2. This load gave a muzzle velocity of 2775 feet per second. No signs of stripping was noticed with this load. Accuracy was reported as 3 inch groups at 100 yards. Our experience with gas check bullets has been that the velocity at which they can be driven depends on the bullet, the individual gun and powder used. It is quite possible that some guns will not handle some gas check bullets above 1800 feet per second velocity." There is the milk straight from the cow. It's pretty evident that some of the old laws in respect to lead bullets and velocity are due for a sharp overhauling.

It is the author's belief that the old laws of velocity were founded on early gas checks which were very loosely fitted to the bullet base. The idea was they should fall off shortly after the bullet left the muzzle, thereby permitting unhampered flight of the bullet. However, at high pressures, these loose checks permitted some fusion which resulted in leading and loss of accuracy.

Gas checks should fit the bases tightly for complete protection. The pressure of the powder gases acting on the base of the gas check should wedge them fast and completely seal the base against the hot powder gases. They should bite into the grooves of the barrel to maintain a perfect gas seal and remain firmly to the base in flight. Thus it is apparent that if high velocities and accuracy are to be achieved, the fit of the gas check is the determining factor.

There is one safety precaution that must be observed when using gas check bullets. No gas check bullet should be seated so deeply in the case that the gas check extends into the powder cavity. Gas checks have been known to drop off the base of the bullet and mingle with the powder charge. They may or may not be blown out the muzzle with the next discharge; chances are they may wedge unnoticed in the barrel. It naturally follows that the next shot will be disastrous.

To sum up the situation, in these days of scarcity of metal jacket bullets the experimental handloader can achieve a fairly satisfactory substitute with gas checks over Eastern ranges. I know from personal experience they will do a very effective job on deer. The bullet metal should always be hard—about one part tin to ten parts lead will be satisfactory.

Hollow base bullets are relics of the old black powder days and are entirely out of place in today's handloading.

The hollow-points, on the other hand, are very fine game killers and have proved their worth both in rifles and handguns. Who first designed the hollow-point is rather obscure but it has been used from the start of the center fire era. It has gone through various changes in the passage of time and today's hollow-point bullets are ballistically well balanced and are remarkable accurate. They generally have a sharp shoulder where the forward cylindrical body of the bullet joins the nose. From a target shooters point of view this makes an excellent wad cutter and punches clean round holes in the target. On game the hollow-point insures effective expansion and adds greatly to the killing power on shots that are not too well placed. The bullet nose usually shatters with the base holding together to give good penetration.

Bullets sizing has come in for a lot of discussion in today's handloading. Here again it appears that some of the old theories are due for some

overhauling. In the old days of reloading for the Krag and the Springfield the rule was a bullet should be .003 to .005 inches oversize to give a gas-tight fit. The larger the bullet the better the chance for completely filling the grooves of the barrel.

Then Dr. Mann, in his experiments, definitely proved that fins on the base of the bullet could destroy its accuracy while a damaged point would have little effect on accuracy. This brought up a host of questions concerning swaging within the barrel. For instance, if a bullet of .311 diameter were forced through a barrel measuring .3080 why wouldn't the reswaging change the original balance of the bullet? Also if a metal jacket bullet measuring only one half thousandth oversize, will swage to fit the grooves, why is it that a much softer lead bullet would not? The answer is it would. In fact it can be undersize and still have enough expansion to fit the grooves, and a much higher velocity with accuracy is possible. Die makers still make their resizers .003 inch oversize according to custom, but will furnish them groove size if ordered.

Bullet molds are very delicate tools and should be treated with great care to avoid damaging them. Most casting trouble comes from not breaking them in properly. There are two ways to do this. The first and safe way is simply to cast bullets with them, discarding the first ones that are usually imperfect. The fast way is to heat the cavity faces in a gas flame until they acquire a blue sheen. Great care should be taken to prevent warping the blocks by too great or prolonged heat.

For casting bullets you will need a dipper that comes with a nozzle on it that fits the pouring hole in the mold, and a melting pot that holds at least ten pounds of metal. Using gas, electricity or the kitchen range, melt the lead first, then add the tin or antimony to give the desired hardness. When this mixture is melted throw in a chunk of beeswax or tallow the size of a chestnut. The resulting greases may be burnt off with a match or they may ignite themselves. This fluxing causes the alloys to mix together and any impurities will rise to the surface, where they can be skimmed off, leaving the metal bright and clean. Always flux the metal before skimming it.

Fill the ladle at least half full of metal and place the nozzle against the pouring hole of the mold. Then turn both the ladle and mold to a vertical position, allowing the cavity to fill. When the former is removed the sprue hold will be left filled with metal. Strike the sprue cutter with a stick of wood and the sprue will be sheared off, leaving the base of the bullet clean. Then open the mold and let the bullet fall on a blanket or other pad. If the bullet does not drop out tap the opposite cavity block of the mold. Never strike your mold with a hard metal object or pry a bullet out of the cavity. The slightest scratch will cause sticking and imperfect bullets.

Your first bullets will be sorry looking affairs—full of wrinkles and only half formed. This is probably due to the mold being too cold or the presence of oil or grease. It's a good practice to wash the mold in gasoline before using it. If the bullets are bright but do not fill out in the corners it is usually due to the mold or the metal being too cold.

If the bullet has a frosted appearance this is probably due to the mold and metal being too hot. This does not affect their accuracy in any way. When the bullets are cool inspect them and throw the imperfect ones back in the pot. Pack the others base down in boxes and keep them separated to prevent damage.

In regards to the degree of bullet hardness this is a matter of velocity and individual barrels. It is not practical to make a harder alloy than one

part tin to ten parts lead as the tin will crystalize out of the mixture. Antimony may be used as a hardener in a lead-tin mixture but I find bullets cast and size better without it. For hand guns I advise a one to fifteen mixture as it cuts down leading of the barrel.

For rifles with plain base bullets one part tin to ten parts lead will be satisfactory in most cases with normal loads. Light loads should be softer. With gas check bullets the hard one to ten ratio should be used. This is only a general guide as rifle bullets are sometimes very sensitive to changes of alloys and reflect it in their accuracy.

Today's handloader is really in clover when it comes to metal-jacket bullets. There are all types and designs in most calibers. One can have soft points with only the lead tip showing or the old fashion soft nose with lead exposed for one quarter the length of the bullet. One can purchase round nose, semi-pointed or sharp-pointed bullets as well as bullets with jackets of all degrees of thickness to choose from.

At present any handloading combination is possible, but careless selection of bullets will probably end in disappointment. For instance, take a varmint load for use in more or less settled communities. To reduce the danger of ricochets you select a hollow point or a thin jacketed bullet and drive it at high velocities to cause it to break up into fragments. Penetration and waste of meat mean nothing here.

Now this same load on big game would only result in wounding and failure, so we choose a bullet of good weight with a thick tough jacket. The jacket thickness depends upon the desired velocity. Remember a jacketed bullet is only a lead bullet with a metal jacket around it. The thicker the jacket the more penetration and the higher velocity it will stand. A good big game bullet must have a jacket of sufficient thickness to insure adequate penetration regardless of other physical changes the bullet is going through at the time.

As metal jacket bullets are much harder than lead and are used at much higher velocities it is very important to know the correct seating depth of the bullet in every load to avoid getting into pressure trouble. Know all the data on full power loads or let them alone.

In the sporting bullet field the old firms of Western, Winchester, Remington and Peters have several new variations of their older bullets and market them under the different trade names.

Peters uses the trade name of Inner-Belted and is different from their old belted bullet by having the band swaged with the bullet jacket on the inside. It is on the same order as the Core-Lokt.

Remington produces what they call the Core-Lokt. It is distinguished by the scalloped edges around the nose. In this construction they get around the belted proposition by swaging the band on the inside. This type of bullet construction was made in Germany years ago.

The Winchester has been improving their famous silvertip. The design of the Lubaloy jacket is like the regular soft point, but the lead core is encased in an additional thin jacket of nickel silver. This jacket extends to the crimping cannelure on the bullet.

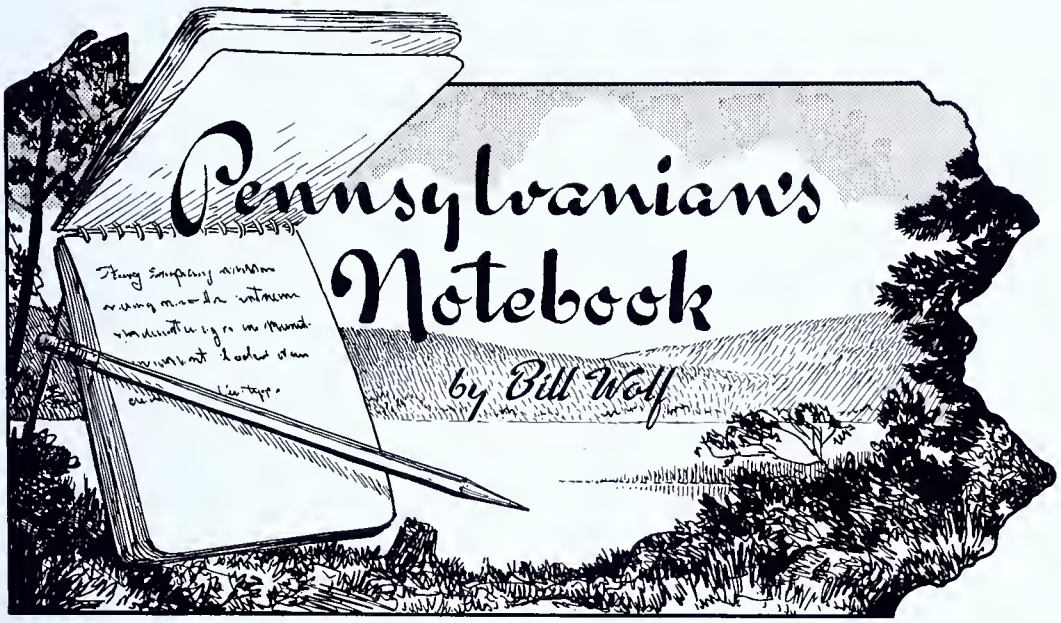
All of the above types have been successful on game. In fact, procurement of good bullets isn't as much of a problem as deciding which particular one to use.

(To Be Continued)

There are no snakes in Madagascar, Ireland and New Zealand.

* * *

The hippopotamus was nicknamed "river horse" because when swimming exposes nearly half the head, resembling a horse.



PART VII

On Laurel and Rhododendron

DURING World War II I took a young British naval lieutenant, whose ship was laid up in the Philadelphia Navy Yard for repairs, grouse and deer hunting in the mountains of northeastern Pennsylvania. The sun was going down when we started back to the cabin one afternoon. I led the way, heading straight north. After going some distance, Peter Whitehead asked uneasily in which direction the cabin lay, and looked blank when I pointed to my left and said "it's that way, straight toward the sun in the southwest." When he wanted to know why I was walking due north I replied "Rhododendron," and explained that we were skirting around a big patch of it which I knew from previous years' experience was almost impenetrable. He seemed to doubt that we couldn't get through "such easy-looking stuff" and I was tempted for a moment to tell him to go ahead and try it, that I would go around and meet him on the other side.

However, I wouldn't wish that on anyone, so we made a long circuit while I tried to explain why the most innocent-looking rhododendron patch should be avoided like the green hell it is. Rhododendron, unfortunately, is a Jekyll-and-Hyde sort of plant, lovely to look at and a decoration for our hills and swamps, but a heart-breaker when you try to push through a heavy growth of it. And I mean "heart-breaker" literally, for I imagine many of the hunting deaths due to heart failure occur while, or soon after, the victims are fighting their way out of a maddening tangle of glossy green leaves and octopus-like branches.

It is so deceptive. My British hunting companion saw only the outside fringe of the patch, with occasional bushes here and there, and avenues between them. The unfortunate person who is lured into the denser growth through the easy openings first visible sooner or later finds himself working hard to get through,

looking here and there for clearings, ducking under and climbing over the close-spaced stems. Eventually, he becomes stubborn. He *won't* go back. He *will* go forward. He won't let any old rhododendron stop him. So he bulls his way onward and finally gets through, but it's not worth the effort.

It is much easier to go around. I would rather walk an extra half mile circling a dense growth than force my way through 100 yards of it. I, too, turn stubborn if I find myself trapped in rhododendron and go ahead rather than turn back in retreat, but I have sworn at myself many times for being so foolish when I have halted, sweated and worn, and wondered whether I could move in *any* direction.

Once I unwisely followed the lead of another hunter, unwillingly and perfectly aware of the trouble ahead because I had previously been caught in the same swampy rhododendron hell into which he headed. It was one of those cases of being polite to an older man when he insisted that we "hunt the swamp because that's where the deer are." Yes, there were deer there all right, but it didn't do us any good. I could hear them moving ahead of us, but never caught a glimpse of one. I made entirely too much noise, breaking twigs, crashing through the growth, stumbling around, and so did the other two gunners. Soon we couldn't see each other, or anything but rhododendron, and each man was caught in a little private purgatory all of his own. It wasn't a huge patch, but it seemed endless until I got across it and out on clear ground again.

Another friend almost came down with a bad heart case in that same little swamp. He was told not to enter it because he wasn't strong enough for strenuous work, and he admitted that his heart wasn't as young as it used to be. However, he got separated from the others, and when they missed him he didn't answer their shouts. It turned out later that he heard them but was so out of breath from trying to break through the clinging brush that he couldn't answer. Then, just as he managed to stumble into the clear, a grouse got up and he shot at it. His fellow-hunters thought it was a signal for help and hurried to him. He was all right, but the others confessed that they were scared by his white face, blue lips, racking cough and labored breathing when they came up to him.

Next to rhododendron, mountain laurel is the second greatest little tangler of human limbs growing in our deer country. Unlike rhododendron, which often grows to treelike proportions, laurel is low, and the hunter can see across a patch of it and estimate its width. Although Pennsylvania has its share of mountain laurel—enough, at any rate, to make it the State flower—it doesn't have as much as farther south in the Great Smokies where the mountaineers refer to patches that run for miles along the hills as "laurel hells." The hill people will not enter them except when absolutely necessary—as when they have to hunt for some city gunner who is lost in one of the hells.

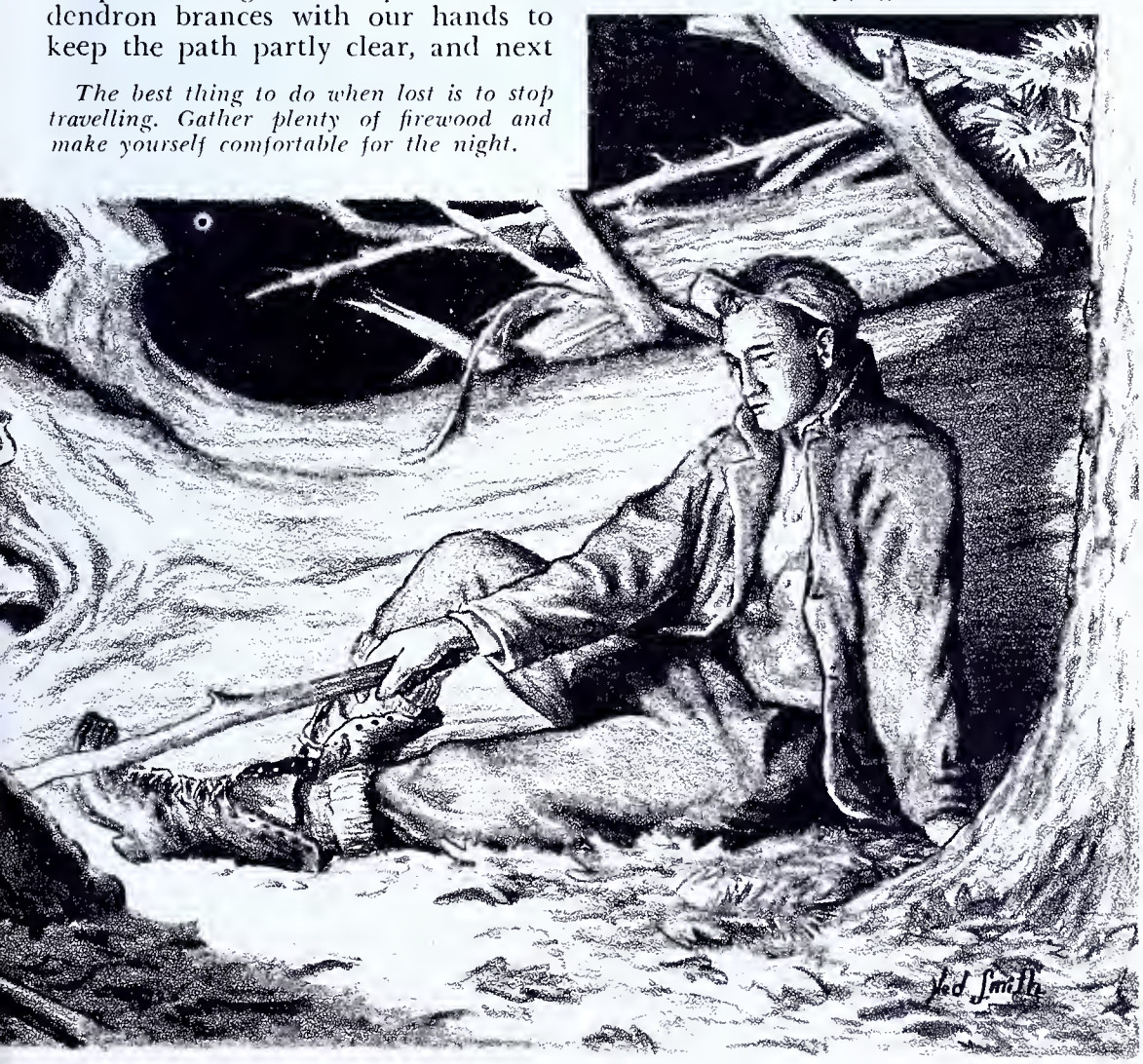
Pennsylvania hunters call it "buck laurel," perhaps because it offers almost as good cover for deer as does rhododendron. Our deer herd couldn't possibly survive the heavy hunting each year if it were not for these two excellent cover plants. Deer can dash into thickets of either plant at full speed without injury, which is a miracle when you consider how thin their legs are, and how tangling the limbs can be. Deer also are wise to the trick of keeping a small clump of bushes between themselves and a hunter, simply circling around out of sight.

A deer hunter I know once bagged a beautiful buck simply because he got lost in a clump of rhododendron. The going got so difficult that he finally got down on hands and knees,

and started to crawl through the tangle, pushing his rifle ahead of him. Suddenly he came face to face with a big buck. All he had to do was point his rifle and shoot it. Didn't even aim.

Once a year I have occasion to travel a mountain path which I know is used by few, if any, other persons. Long ago it was the road to a farm down in a river valley, but time has contracted the road to the dimensions of a path, and a narrow one at that, thanks principally to rhododendron. At times it is necessary to squat down and peer under the jungle of shining green leaves to find the path, so quickly does the growth encroach on it from year to year. Each time we pass through we snap off rhododendron brances with our hands to keep the path partly clear, and next year when we return it is all grown shut again. That, by the way, is a curious trait of persons who spend much time in the mountains—they automatically break back twigs and branches growing across a trail they expect to use again some other day, or they lift aside wind-fallen branches.

Perhaps it sounds as though I actively dislike rhododendron and laurel, but that is farthest from my thoughts. I do think that large thickets of either should be avoided by the man who values his temper, health and adherence to moral standards which forbid cursing. It is easier always to go around than go through, especially if rhododendron is combined with swampy ground as it so



The best thing to do when lost is to stop travelling. Gather plenty of firewood and make yourself comfortable for the night.



often is. However, both plants have virtues that far outweigh the minor annoyances they cause human hunters.

The protection they offer to pursued game has been mentioned. But they have other qualities. The dry, dead sticks of either plant make a good campfire with a clean, hot flame, although I must admit that little deadwood is ever found in rhododendron and laurel thickets because both are too vigorous to die off. The wood of rhododendron is especially hard and strong.

Their greatest value, however, lies in the fact that they clothe much of Pennsylvania in beauty from January to December. Even in the dead of winter, the glossy green leaves of the rhododendron bring a touch of color to the cold hillsides. Really severe cold causes the leaves to shrink and droop, apparently lifeless, but resurrection comes swiftly when the red line in the thermometer rises, and winter is made verdant with their rich color which is equalled by no other evergreen except, possibly, the smaller-leafed and inconspicuous wintergreen on the ground. Laurel leaves have this same rich greenness to a lesser extent. Without laurel and rhododendron, the winter woods would be quite sombre.

They do not bloom early in the spring, when most other plants blossom in the woods, but wait until summer arrives when they take over the job of adorning Penn's woods. And a fine bit of work they do, too, with their pink and white blossoms. We are far enough south in the rhododendron's range to enjoy somewhat deeper colors, verging almost on red, than the same plant displays farther north. The blossoms of both, however, are best admired at a distance because they are disagreeable to touch since they exude a sticky substance. In heavily-shaded places, rhododendron blossoms linger on far into late summer.

On Being Lost

The Briton who thought we were going the wrong direction when we skirted a rhododendron patch had nothing on me when it comes to a

dread of being lost in Pennsylvania's woods. I have a holy horror of it, and not because of fright, but due to an even greater human frailty—embarrassment. I would be everlastingly ashamed of it, yet I know it's bound to happen sooner or later. By "lost," I don't mean temporarily puzzled, but lost to the extent that it is necessary to stay in the woods a day or two before being found, or before finding my own way out. Everyone has been temporarily lost, whether they will admit it or not, and that goes for natives of the mountains as well as city men.

Some men possess to a greater extent than others a sense of direction, a sort of built-in compass that tells them which way is which. They get tangled up less frequently than most, but the best woodsman can be puzzled at times. However, unlike the novice in the woods, the veteran will extricate himself from his predicament in a little while without outside aid. However, there are conditions under which the most experienced person can get confused. Two things change completely the appearance of otherwise familiar country. One is fog. The other is a heavy fall of snow that occurs while you are far afield and must backtrack to your camp or car. Both limit visibility, and snow has the further disadvantage of changing the "look of things," that vague guide used by woodsmen to find their way back.

In a case I have cited before, a heavy fog came up while two friends of mine were working on a piece of land owned by one on North Mountain in Sullivan County. Both had lived all their lives in the woods, both knew nearly every inch of the property, but they spent hours groping around in the mist, in an area of less than 80 acres, trying to find the farmhouse. They still feel rather sheepish about the experience, but what happened to them might occur to anyone. When it is impossible to see more than a few feet, things become unfamiliar and you can't go from one landmark to another. North, south, east and west don't exist, unless you want to depend upon that hoary old legend that moss grows thickest on the north side of trees, a bit of inaccuracy that must have sent many a believer in the wrong direction. Sometimes it does, and oftentimes it doesn't.

Without a compass or visible sun, even an experienced woodsman can get mixed up in strange country. There are few things in nature to say that this way is north, or that way is south. Sometimes steadily prevailing winds will tip the tops of tall trees permanently in the opposite direction. For instance, in much of middle Canada the prevailing winds are from the west so the taller tree tops are bent to the east, and thus are a dependable direction pointer; but there is little similar uniformity in nature. We could say, truthfully, that *most* streams in Pennsylvania flow in a general southern direction; but that wouldn't help anybody establish north and south quickly because there are too many exceptions and too many twists and windings.

Even a compass is useless if the person carrying it does not have fixed in his mind a good idea of what the country he is in is like. It is useless to know north, south, east and west if you have no idea of what exists in those directions.

That old injunction to follow a stream if lost, since it will bring you to a highway or civilization eventually, is fine as far as it goes—and it surely goes a long way on some streams. I'd hate to follow certain streams I know in the hopes of finally coming to a road or habitation. They have U and S turns, they double back on themselves, and it would take days of weary, discouraging travel to come out that way. Most streams are hard to follow anyhow. You have your choice of sticking close to the stream

where the going is bound to be difficult unless there is a well-worn path to follow, or of climbing to the ridges above the stream where travel is easier, but where it is difficult to keep the stream in sight. A stream bottom too often is swampy, marshy or overgrown with a jungle-like tangle which can wear a man out in a little while.

The best thing to do when lost is to stop travelling well before nightfall—unless absolutely certain you are on the right track to get out—gather firewood, and make yourself comfortable for the night. Then wait for your friends to find you. That, however, is what I dread. This didn't start out to be a treatise on what to do when lost, but as a discussion of some personal worries about the possibility of that unfortunate thing happening to me, and why I would hate it. I have no fears of spending even days in the woods. If I had matches and a knife or axe, I could survive indefinitely—of that, I'm fairly confident. I wouldn't live luxuriously, but I'd live, even in winter.

Survival would be the least of my worries—but the ignomity of having to wait until someone found me! That's the thing I couldn't stand, although that's the most sensible thing to do. There are few instances of anyone being lost without someone being aware of his disappearance. Your family, the friends in your hunting party, the innkeeper where you are staying for the hunt, someone knows you are missing. If you don't show up, a searching party is organized—and, if you haven't foolishly wandered too far afield, they know where to look within a limited area and will find you promptly. That's the ignominy of it all!

* * *

Pathfinders

This is being written on an early fall day, and there has been evidence outside the windows an annual phenomenon that has never failed to impress me as one of the strangest in nature. The Monarchs are on the move, and they need no guide, no compass, no maps to find their way south despite the fact that they are butterflies. Some magic in the air, some tonic in the thinning sunlight of September makes them pull up stakes and leave Pennsylvania for the warmer south.

These are rather large butterflies, but the biggest butterfly is a frail thing to pit itself against the stormy buffeting it must take on a journey of a thousand miles. Yet, the Monarch butterfly *(anosia plexippus)* gathers in considerable numbers each fall and undertakes a trip that would make a human being hesitate if he had to do it under his own power over a strange land without highways or anything else to guide him. It makes the journey instinctively, which doesn't make it any the less remarkable because how does this atom of life know that a warmer sun awaits it far to the south? It can't reason, it can't remember, it just responds to some vague impulse to take to the air and join its fellows in flight.

The Monarchs do not flock up as birds do, although they often travel together in great numbers. If not familiar with them, you can recognize them in the early summer (when similar migrations to the north occur) and in fall by their orange-brown color, outlined and veined in dark brown. Their caterpillars feed on milkweed and the Monarchs often are seen around these plants. They are not the only migratory butterfly, but they probably make the longest flight among American species.

Pennsylvania is not their northern limit (I have seen them gathering for migration in Maine), but they do not occur in great numbers much farther west.

. . . *The End*

CONSERVATION NEWS



The new president of the Pennsylvania Game Commission, Robert Lamberton, has served as the commission's vice president since 1942.

LAMBERTON NEW COMMISSION PRESIDENT

Robert Lamberton, of Franklin, was elected president of the Pennsylvania Game Commission at its January 9 meeting in Harrisburg, succeeding Ross L. Leffler, of Pittsburgh.

Mr. Lamberton was appointed a member of the Commission on March 26, 1935, and has been the Commission's vice-president continuously since January 8, 1942.

The new president has spent most of his life in Franklin, where he presently resides. He is active in sportsmen's organizations and as an ardent hunter and fisherman has pursued his favorite sports in all parts of the Keystone State as well as in southern and western United States and various parts of Canada.



John C. Herman, ardent sportsman who was recently appointed vice-president of Game Commission.

Mr. Lamberton has owned and handled a number of outstanding grouse dogs, one of which was Lamberton's Mack, a Grand National Champion.

At present he is Safety Director for the Joy Manufacturing Company in Franklin, and is affiliated with Masonic Fraternities and numerous other clubs and organizations.

Mr. Leffler, the retiring president, has an outstanding record, having served in that capacity for sixteen of the 24 years he has been a member of the Commission. He is a nationally recognized leader in conservation organizations and is past president of the International Association of Fish and Game Commissioners.

Among his many accomplishments is the distinction of organizing the first chapter of the Izaak Walton League in Pennsylvania, and serving as its president. He is also a former national director of the League. Mr. Leffler was instrumental in establishing the Commission's training school, which is located at Brockway and named in his honor.

At the same meeting John C. Herman was named vice-president of the Game Commission.

Mr. Herman has served almost eight years as a Commissioner and is well qualified for the post. His travels as a sportsman and conservationist have taken him to widely scattered parts of the United States and Canada



Retiring president Ross L. Leffler has an enviable reputation as an outstanding conservationist, and is a veteran of 24 years service with the Game Commission.

—from the Hungarian partridge country of Manitoba and Saskatchewan to the quail coverts of South Carolina.

The new vice-president's enthusiasm for hunting is substantiated by his proud statement, "I have missed only one opening day of the small game season in Pennsylvania since 1915."

EXHIBIT ATTRACTS FARM SHOW THRONGS

Thousand of visitors at the Farm Show, at Harrisburg, during the week of January 14-19 viewed the Pennsylvania Game Commission's exhibit on the lower concourse of the Farm Show Arena and the special attractions offered in the Small Arena.

As part of its conservation education program the Commission featured an exhibit designed to aid farm youth in the restoration of vanishing game species and to encourage the incorporation of sound wildlife conservation practices in the farm program.

One attractive display featured beautiful live wild ducks in a setting simulating their natural environment. Wood ducks, blacks, mallards, pintails, redheads, baldpates, gadwalls and teals were represented. The painted background showed a farm on which modern agricultural practices were successfully combined with wildlife habitat improvement.

In another part of the exhibit live muskrats were displayed, reminding our youthful farmers that waste marsh lands can be improved to increase the production of these valuable fur bearers.

A covy of live quail in another part of the exhibit called attention to the Commission's quail chick and day-old pheasant chick programs.

On the night of the 15th the audience in the Small Arena was treated to an unusual sight. Dogs representing twenty different sporting breeds were shown, and their characteristics explained by Herbert Kendrick, dog column editor for the GAME NEWS. Bassets, beagles, English setters, pointers, German short-haired pointers, springer spaniels, cocker spaniels, American water spaniels, Brittany spaniels, Walker hounds, Plott hounds, Weimeraners, Labrador retrievers, Irish setters, 'coon hounds, Dachshunds, squirrel hounds, Chesapeake Bay retrievers, and airedales were exhibited.

Following this feature a humorous skit teaching better farmer-sportsman relations was presented by Game Commission personnel under the supervision of Roy Trexler, Southeast Division's popular Conservation Education assistant.

The following night the audience was thrilled by an excellent archery exhibition staged by some of Pennsylvania's leading archers. Five young bow enthusiasts including the State Junior Field Champion, Larry Mullin, of Middletown, Clifford Caldwell, of Chambersburg, Eugene Ziegler, of Allentown, James Hall, of Lancaster, and Robert Kaufold, of Lancaster, demonstrated their ability. Robert J. Smith, runner-up in the State Target Championship Tournament, and Ralph Hull, well-known archer of York competed with the State Field Champion Robert Kendig, of Lebanon, in shooting at deer and standard targets. Kendig captured the admiration of the audience with an unusual display of fancy shooting. He demonstrated the power of the bow by driving an arrow through a box of sand and by piercing a sheet iron skillet with a broadhead, then climaxed the evening's entertainment by snuffing out two candles with well-placed arrows.

Clayton B. Shenk, secretary of the Pennsylvania State Archery Association, presided as master of ceremonies.

The next Pennsylvania Game Commission exhibit can be seen at the Philadelphia Motor Boat and Sportsmens Show, held in Philadelphia February 29 to March 8.



GEORGE KOEHLER

It is with a great deal of pleasure that we welcome to our ranks once more a veteran of the Commission and of the military —George Koehler of Proctor Star Route, Williamsport (Loyalsock) who is in charge of exhibit preparation in the Division of Conservation.

George is known to thousands of sportsmen as the man who "puts up the shows" and this familiar compliment will no doubt be reaffirmed as time goes on.

He had a long and active service, prior to leaving the Commission's employ for the army. He was appointed a refuge keeper in May 1929, a Game Protector in 1939, and entered the military service in July 1942. Uncle Sam retained his services until October 1943.

Prior to re-entering the Commission's service he maintained hotel accommodations for sportsmen, and eventually on May 16, 1951 rejoined our organization. We are glad to greet once again a fine fellow, a loyal employe and a true conservationist.

Time Grows Short for the Key Deer

Unless Congress provides funds during the coming session for a federal refuge for the remnant population of Florida Key deer, it probably will be impossible to save this tiny subspecies of the eastern whitetail from extermination. Last official reports placed the number surviving at no more than 32 head.

Interim protection is being given the herd by conservation organizations including the Institute, New York Zoological Society, Camp Fire Club of America, National Wildlife Federation, Florida Game and Inland Fish Commission, and the Boone and Crockett Club, which has shouldered the heaviest share of expenses. Private individuals have contributed money. In spite of these measures, the deer cannot be saved if its habitat is destroyed.

COMMISSION SETS OPENING DATES

At its meeting in Harrisburg on January 9 the Pennsylvania Game Commission definitely set the opening dates of the coming hunting seasons, but fixed only tentatively the length of the seasons.

In giving advance notice of the opening dates of seasons at their January meeting the Game Commission provides hunters with information they need in applying early for vacation time they desire during a particular gunning period.

Following are the opening dates, with end of season dates subject to later change. Both dates are inclusive:

Bow and arrow season for deer, October 13 to 25; Small game, November 1 to 29; Bear season, November 17 to 22; Deer season, December 1 to 13; Snowshoe rabbits, January 1 to 10, 1953.

The length of game seasons will be decided finally at the Commission's July meeting. At that time the game authorities will know the spring and early summer breeding results. This and other factors guide them in deciding what and how long the seasons shall be without endangering future hunting in Pennsylvania.



Outdoor Kids

By Hal H. Harrison

WHEN Billy and Jane looked out of the window one morning in February and discovered that their thermometer registered just two degrees above zero, Jane shivered and Billy smiled. It was going to be a cold trip to school, but if they were dressed warmly, they would not mind.

Thus, this ordinary household thermometer had warned the children in advance just what to expect when they went outside. On a hot afternoon in July, the same thermometer might register 90 or more degrees higher than it did that morning in January.

The degrees marked on our common thermometers are known as the Fahrenheit scale, an invention of a German by that name. Fahrenheit believed that his mark of zero was the lowest possible temperature, so he marked 32 degrees above zero as the point at which water freezes. He set the

boiling point of water at 212 degrees. Thus, there are 180 degrees between the freezing and boiling points of water on our common thermometer.

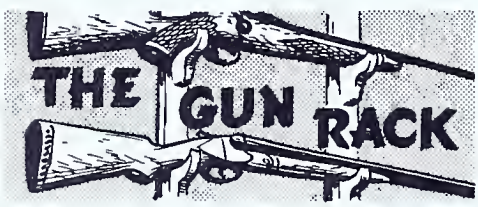
Inside the thermometer there is a column of mercury, often colored red. This liquid expands with heat and contracts with cold, indicating the various temperatures.

What is the coldest weather ever recorded? It was 90.4 degrees below zero in Verkhoyansk, Siberia, on February 5 and 7, 1892. In our country, the thermometer reached its record low of 66 degrees below zero at Riverside Ranger Station, Wyoming, on February 9, 1933.

What is the hottest weather ever recorded? In Azizia, Libya, it reached 136 degrees on September 13, 1922. In the United States, it was almost as hot in Death Valley, California, on July 10, 1913, when the mercury reached 134 degrees.

A barometer is an instrument which registers the weight of the atmosphere directly above us. As a general rule, a falling barometer means a storm and a rising one means fair weather, but this rule is not always true. It is only when the barometer reading is used with other information, such as humidity, temperature, wind direction, and disturbance of air layers, that its reading can tell us in advance what kind of weather we are to have.

. . . *The End.*



The Mauser 8mm

By Ed Shearer

WRITING about the 8mm (or 7.9mm) Mauser is no easy task due to the many versions and the lack of standardization of anything but the action itself. In addition, no other rifle in the history of firearms has had as many wild claims made for it. Practically every country on the globe is familiar with it and many of their armies have used it in one form or another—including our own. This is borne out by the fact that the U. S. Government paid the Mauser firm a royalty on every Springfield manufactured up to World War I.

The German army adopted the 8.57mm cartridge for a rifle invented by Ferdinand Von Mannlicher, an Austrian gunmaker. This rifle had a bolt handle of the same type and location as the Mannlicher of today. The magazine, unlike the Mannlicher rotary type of today, was a box type that required a special clip for loading. The bore of the rifle measured .311 inch with a groove diameter between .317 and .322 inches. Thus from the start there was no attempt to hold the barrels to close tolerances. The throat of the chamber was free bored even in that early day. This rifle is generally referred to as the 88 model Mauser but it seems to be more of a Mannlicher than a Mauser.

In 1898 Paul Mauser introduced the Mauser 98 action which was immediately adopted by the German Military. Basically this is the Mauser action of today. The 7.9, or 8mm, as it is generally referred to, was

retained as the military cartridge. The bore diameter was .311 inch and the groove diameter ran between .317 and .322 inches, depending on which armory it came from. If commercially made it might be of any dimensions the maker thought fitting and proper, and gun makers' thoughts varied considerably. The military bullet was a full-jacketed round nose weighing 227 grains.

I had my first experience with this model in an 8mm. Saurer sporting rifle. There was the usual ballyhoo about killing antelope at nearly a mile. In actual tests it did manage to raise a nice puff of dust off rocks at quite a distance, said rocks being about 20 feet square. But when you came down to game-sized rocks it was pretty much of a gamble. This was a whale of a lot closer than the mile claimed—500 yards to be exact. I found it not nearly as accurate as the .30/40 Krag which was then fighting it out with the new Springfield for long range honors in the Wimbledon.

In the early 1900's a new European type bullet was evolved that created quite a stir in the ballistic world. This was the spitzer or pointed bullet. In 1904 the German army changed their 1898 cartridge from the 227 grain round nose bullet to a 153 grain spitzer, thus the Model 1904 Mauser came into being.

As pointed out, the bore diameter on all Mauser barrels up to this time was .311 inch and the groove diameter ran between .317 to .322 inches. In 1904 the groove diameter was increased to from .322 to .326 inches, and the bullet diameter increased to .322 inches, but the bore diameter was still retained at .311 inches. The idea of the larger bullet diameter was to increase the resistance to help stabilize the much shorter bearing pointed bullet, in flight. The free boring of the throat was still retained in all rifles chambered for the new cartridge.

This increased diameter is the reason why the 153 grain bullet cannot be fired safely in old barrels. But the old bullets can be used in the 1904 model with more or less success.

I shot this model quite a bit in France in World War I and found it inferior to the Springfield in accuracy and workmanship and about on a par with the Enfield. I killed deer and wild boar with this full jacketed military bullet with good success as the bullet generally upset.

The 98 model Mauser action is one of the best bolt actions produced to date. From the standpoint of strength I have never seen or heard of any authentic instance of one of these well made Mauser actions blowing up. In the period following the World War I this country was flooded with a lot of cheap pot-metal Mausers that added up to nothing but junk. They had a lot of trick names that sounded similar to reputable makes of Mausers. I have seen them on sale at that time in department stores for $36.00 complete with telescope sights that were as worthless as the rifles. They were mixed with a lot of war-used regular military Mausers equipped with what passed for sporting stocks. Though rough, the actions of the latter were reliable and good enough for rebarreling.

There must be some of this junk still around, which is one good reason for knowing the history of any stray Mauser you are figuring on buying.

A good Mauser action will handle gas from a punctured or defective primer better than any action that I have ever seen with the exception of the new Remington. The bottom of the bolt has a big gas port just back of the striker and there is an integral ring inside the receiver that adds greatly to the strength of the action. The design of the barrel chamber is such that it covers the entire rimless cartridge case clear up to the extractor cut. The rear end

of the barrel is square and flat on the bolt face so that no portion of the cartridge is unsupported by the chamber. For this reason a ruptured case head does not allow the gas to enter the receiver ring to shatter it as has happened with the Springfield and Enfield rifles.

I have a Waffenfabrik sporting rifle that has two shoulders, one at the front edge of the receiver ring and the other at the face of the breech of the barrel that are perfectly fitted and completely enclose the cartridge in a hard steel barrel. There are two locking lugs at the front of the bolt that lock with a powerful camming action that provides sure extraction. This Waffenfabrik is a beautiful piece of workmanship and I don't hesitate to feed it some really stiff loads.

One of the bad points of the Mauser action is the sloppy travel of the bolt. When fully open you can switch it around like an old cow's tail in fly time. Another undesirable feature is the position of the safety, which is cleverly located to give you a belt on the nose if you crawl the stock in shooting. Also, both the safety and the bolt handle must be altered if you wish to mount a scope low down over the bolt.

Another bad feature is the magazine which holds the cartridges in two staggered rows. This allows the cartridges to be hurled against the front of the magazine well by the recoil, battering points on soft nose ammunition rather badly. Another more serious result occurs if you are using bullets without a crimping cannelure. In this case bullets are sometimes set back in the cartridge case far enough to decrease air space and run pressures up to the danger point. This may be overcome by fitting two thin strips of metal to the sides of the magazine well just forward of the shoulder of the cartridge case. Properly adjusted this device will protect the bullet points, as the case shoulders take the blow when thrown forward by recoil. Any good gunsmith can do this job.

The World War II Mausers that the boys brought home and those that are being imported at the present time are all good actions. They can be rebarreled for any of our modern cartridges and will stand the pressures O. K.

SETTER LOST

Lost—a female Gordon Setter, black and tan, answers to the name "Boots." Wearing no collar at the time. Boots disappeared on Thanksgiving Day, from a hunting camp in Clinton County 15 miles north of Woolrich near Caldwell. Fifty dollars reward is offered for the safe return of this dog to its owner.

R. F. Lutz
119 Dell St.
Emmaus, Pa.
Phone Emmaus 604 M

The most serious drawback to the Mauser rifle is the lack of any standardization in barrel boring and in their free boring of the throat which allows a certain amount of gas cutting and does not help accuracy.

The loose barrel tolerances are by far the most serious fault. Remington realized this some years ago when they brought out the 8 mm. cartridge. They used a very soft jacketed bullet measuring .321 inch and weighing 170 grains and loaded to a very low pressure. This gave a velocity of around 2500 f.p.s. and was a compromise load. In over-size barrels the bullet would expand to a reasonable degree for a gas-tight fit. In slightly tight barrels the soft bullet would be compressed to fit without a dangerous increase in pressure.

This summer I did quite a lot of experimental firing. My Waffenfabrik

8 mm sporter has a barrel that measures .321 inch groove diameter. The Remington bullet measuring .321 inch gave me very good hunting accuracy, with mild recoil and little case expansion. I then tried the Winchester load, which is also a low pressure load behind the same weight bullet but with a stiffer jacket and measuring .323 or .002 inch oversize for my barrel. Results indicated undesirable pressure. Case expansion and heavy recoil were present and the group went to 18 inches at 100 yards. In a friend's Mauser which measures .324 inch it gave good accuracy with no evidence of excess pressure.

With the .32 special bullet, which measures .321 inch, I can get close to 2900 f.p.s. velocity with the 150 grain bullet and around 2800 f.p.s. velocity with the 170 grain bullet without excess pressure, with hand loads. Any attempt to approach these figures with the .323 inch bullet would result in a wrecked gun. Our own factories stay pretty close to groove size or a half thousandth over, for our own cartridges.

The 8 mm is a very good hunting cartridge and has been used on big game the world over with good success. When loaded to its full capacity it runs pretty close to our 30-06. The unfortunate facts are there are no factory loads made in this country to bring out the full capabilities of the 8 mm. due to this matter of barrel variation.

There is one thing every owner of an 8 mm. should do. He should have the bore slugged and the groove diameter accurately measured. He can then select the bullet diameter in factory loads to give him the best results. If more velocity is desired any reliable custom loader can work up a hotter load if furnished with the inside barrel dimensions.

The one important thing in the 8 mm for safety and performance is to know the groove diameter of your barrel and the bullet diameter that you will shoot through it.

. . . *The End*

HOW SHOT SIZE WAS DETERMINED

Nomenclature of sporting ammunition has always been the source of considerable speculation among sportsmen. Ballistics engineers and experts are often not too clear about the origination of some of the terms, as in many instances no set pattern seems to have been followed, the dictates of custom having been accepted through the years.

"For instance," says a Remington Arms Company authority, "take the size of shot. How these various shot sizes were named has been a matter of guess for the majority of sportsmen. Shot diameter determines the size designation. Through the use of the figure 17 as the constant the story is simple. Take a Number 8 shot, subtract its diameter (.09") from 17 and you get 8, or the size designation. Here's the rest of it, in size (diameter still in hundredth inches). SEVENTEEN is the keynote.

	Size	Diameter
17	9	.08"
17	8	.09"
17	7½	.095"
17	7	.10"
17	6	.11"
17	5	.12"
17	4	.13"
17	3	.14"
17	2	.15"
17	1	.16"
	BB	.18"

"I'm not absolutely sure that this was the way shot sizes were originally determined," he added, "but it works out that way."



The Seasons' End

By L. J. KOPP

THE saying that trappers are active during every month that contains an "R", does not hold true, for the majority of trappers cease operations at the end of the muskrat season. There are exceptions, though, and you are missing a good bet by calling a halt to your trapping season at this early date.

For instance, if you live near good beaver country trapping these valuable furbearers during the open season from February 15 to March 1 might prove profitable. However, it is well to look into the special regulations governing the taking of beavers before beginning.

Fox trapping, too, can be successfully pursued during the late winter months—by the *smart trapper,* that is. In many cases trappers who are not aware of the mating season which starts in late December and continues through most of January, give up in disgust even before the first day of February.

This is not unusual. During the mating season, fox tracks not only appear more numerous, and in more different places, but they often pass by your very best sets without even giving the slightest hint that they know of its existence. A trapper might well get the unhappy idea that he has suddenly lost all his know-how of fox trapping. The many fox tracks, and the increased activity which the mating season entails frequently lead the uninformed trapper to think that hundreds of foxes have suddenly invaded his trapping area. Accordingly, it is not strange when a trapper, unaware of the change which the mating season brings about, gives up trying to trap them.

The more advanced fox trapper sees no reason for alarm. He knows that Mr. and Mrs. Fox have temporarily lost their interest in his tempting bits of food, and are more interested in preparing for a future generation of foxes.

Unfavorable weather also plays a part in making winter fox trapping difficult. Trapping foxes in snow is in itself difficult, and this, coupled with the foxes unpredictable activities during the mating season, makes it just about impossible.

Daily changes in the weather also contribute to the problem of snow trapping. You might make a snow set while the snow is dry and fluffy, and by the next day the set may be covered with a hard crust of snow. A light rain, or just an hour of mild weather during the day's highest temperature can cause this.

Looking back over the past trapping season I recall some unpleasant experiences which are all too commonplace. According to my diary, I experienced my share of incidents which are demonstrative of an appalling lack of common decency. During the course of approximately six weeks trapping, seven traps were stolen from me. Neither the traps, nor their financial value hold any cause for concern—what I am concerned about is the forceful realization that some people can be so stupid and seemingly unconcerned about another man's rights and well-being. Nor is this the work of one individual; this practice of stealing my traps was carried on in

all sections of the trapline. My observations indicate that trap thieves are to be found everywhere, and in increasing numbers.

While the steady increase in the number of small game hunters may, in some cases, be the mark of progress, it serves only to increase the volume of trouble, which is already a burden to the trapper.

My own experiences of finding fur animals in my traps which had been killed with a shotgun during the past trapping season, are indicative of the sort of thing we can expect when uninformed or malicious persons are abroad with guns. The killing of foxes in my traps is fast becoming accepted as a matter of course. Such unscrupulous acts not only tend to ruin a fox set, but are also a violation of the Game Law which prohibits the disturbing of traps or trapped animals without permission of the owner of said traps.

Stray dogs are also posing a problem for trappers—a problem that is becoming more acute each year.

For several years, a number of locally prominent sportsmen had suggested several areas where they felt that foxes were becoming increasingly destructive both to small game and to farmers. Following these welcome suggestions, I spent several days prospecting and preparing the areas prior to the time I wanted to begin fox trapping.

During the course of one such prospecting trip, I met a farmer working in his fields. After a short conversation it developed that he too was of the opinion that foxes were becoming increasingly destructive. Unfortunately however, he also disclosed that he had seen many stray dogs roaming about the area, and expressed the hope that I would catch and dispose of them, but I wasn't very fond of the farmers hopes.

Nevertheless, even though I was much disturbed by this bit of information, I began placing my fox traps on duty in the field as scheduled.

I was pleasantly surprised the next day, to find that my pre-season work was bringing in results. I continued taking foxes for the next three days, when all of a sudden I ran into the trouble which I had feared. For three days in succession I found a dog caught in one of my traps. Then and there I decided that I could not afford to drive twenty to thirty miles every day to find a stray dog which necessitated extra time and work, in addition to ruining my sets. I recall one of these dogs in particular, as it was a very large dog, and resembled what is commonly called a "police" dog. At any rate the animal was not lacking in strength as it escaped right before my eyes while I was walking up to my set. It escaped when the small swivel-like top of the trap stake was yanked out by the dogs sheer strength. This is an unusual case, and it does not reflect upon the quality of the trap stakes.

These incidents are fairly typical of those experienced by many trappers throughout the Keystone state. These men of the fur trails, who make trapping their business, are doing an immeasurable service for the good of the community and the state as a whole. Certainly they deserve a more generous degree of respect. No one should labor under the false impression that trappers are enjoying the respect due them. Instead these men annually lose literally thousands of dollars worth of traps. In addition to this there is the loss which trappers are forced to sacrifice as a result of ruined furs from shotgun blasts.

What can we do about it? As it now stands, the problem looks dreary, to say the least.

Is it possible that somewhere along the line we slipped up on our two methods of combat, namely; the law, and education? The question is open for your serious consideration.

. . . *The End.*

The Bow

Type-Materials-and Characteristics

By Thomas A. Forbes

Part I

THE bow can truthfully be said to have been man's universal weapon down through the ages. With it he procured food for himself and family and defended himself from his enemies. Australia is the only large land mass where the bow was unknown to the aborigines. The Bush man of Australia is at the bottom of the scale of civilized man and it is interesting to note in reading history that from ancient times to the advent of firearms the nations who reached the highest degree of civilization also excelled in the use of the bow as a military weapon.

Lacking modern means of communication and transportation the ancients were unable to exchange either commodities or ideas and, although the bow was almost universally known it was constructed of necessity of materials indigenous to a locality and readily available to the inhabitants. Thus from the high steppes of Asia and the far East where timber was scarce and almost nonexistant over large areas came the earliest counterpart of the modern composite bow. Fabricated from horn, wood, and sinew, it was used by the armies of Assyria, by the Mongols, the Chinese, and the Turks.

The wooden long bow of Western Europe was probably introduced to England from the Scandinavian countries and underwent little change or improvement until the present century. Discarded by the English speaking peoples as a military weapon it was relegated to a minor role in sport and no sincere effort was made to improve its performance.

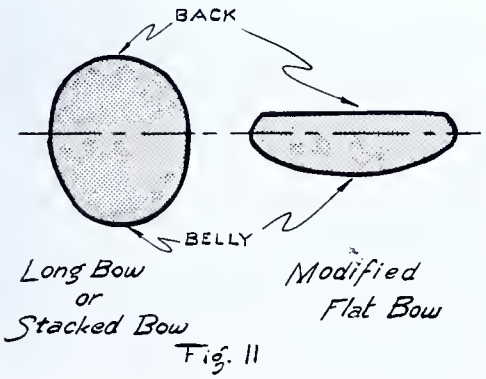


The efficient modern bow has evolved through scientific research in many fields of material and design. For discussion purposes bows may be divided primarily into three groups: the wood self bow a bow made of one piece of wood without backing, of which the English long bow is the prototype; the composite bow, a bow constructed of several different materials; and the all-metal bow, the most recent development of the Boyer's (bow-maker) art.

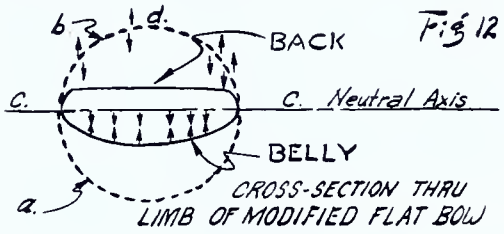
At first efforts to improve the cast (the ability of the bow to propel an arrow) of the long bow, without at the same time increasing the drawing weight proportionally, were confined to the search for a suitable wood that would produce the desired results when manufactured into a bow. Little or no attempt to change the cross section of the bow was made at this time. The principal bow woods are yew, osage orange, lemonwood, and hickory. Lancewood, a straight grained, tough, elastic wood of the family Annonaceae obtained from the West Indies and Guiana was at one time a favorite bow wood of the English boyers but is little used today. Lemonwood is imported from Cuba and receives its name from its color, to distinguish it from lance wood. It is a

very reasonably priced bow wood and makes an efficient, serviceable and good looking bow. Machine tools can be used in manufacturing a bow from lemonwood and this accounts in part for the low price of the finished article. Yew is rated as the preferred bow wood with osage orange second. Yew is a softer wood than osage orange and a bow constructed of yew is considered to have a smoother cast than one made from osage orange. For this reason it is the preferred bow wood of many target archers. Osage orange is more durable than yew and is very fast in action. It can be called the universal bow wood as it is suitable for the construction of both target and hunting bows of all kinds. Yew and osage orange bows are made almost entirely by hand and this accounts in part for the increase in cost of this type of bow. Hickory makes a very durable bow but it rates lowest in cast of the bow woods. However when carefully made of selected and well seasoned stock it is a good low priced bow.

Having exhausted the possibilities of the different species of wood to increase the performance of the self bow, craftsmen began experimenting with changes in the design of the convential English long bow. Gradually the best features of the long bow and the short flat bow of the American Indian were combined to produce the modified flat bow (Figure 11.)



Let us digress for a moment and examine the physical changes which take place in the fibres of the bow



when it is flexed or drawn and the resultant internal stresses that are set up in the bow. These internal stresses or forces are what gives the bow its casting power. Wood has the property of elasticity. Within certain limits when an external force is applied it can be elongated or compressed and when the external force is removed the wood fibres which have been subjected either to tension or compression will return to their original shape.

In Figure 12 the dotted line *ab* represents the cross section of one of the limbs of a stacked bow which is a bow that is nearly as thick as it is wide in cross section. The solid line represents the modified flat type bow which is considerably wider than it is thick. When the archer flexes or draws the bow he applies the external force which sets up the stresses in the wood fibres. The line *CC* represents the neutral axis of the cross section of the bow or the plane of no internal stress which always passes through the center of gravity of the section. This axis may also be defined as the plane on one side of which the wood fibres are under tension and on the other side compression. The amount of tension or compression in the fibres at any point of the draw varies in direct proportion to the distance of the fibres from the neutral axis. Since the back of the bow is under tension in the draw it follows that the fibres at point *d* which is the greatest dis-

tance from the neutral axis are under the greatest tension. Indicated by opposing arrows in Figure 12 and as previously explained this tension decreases around the circumference as the distance from the neutral axis decreases until it reaches zero at the neutral axis. Thus it is evident that the stacked bow has the major weakness of having the tensile stresses unequally distributed over the bow's cross section and when the limit of elasticity is reached in the wood fibres at point *d* these fibres will rupture. The whole stress will be thrown on the remaining fibres and progressive destruction of the fibres will occur. When a wood is stressed beyond its elastic limit is does not immediately fracture but it no longer has the property of being able to return to its original shape when the external force is removed. Archers express this condition by saying that a bow has let down, meaning that it has weakened to the extent that it has lost its casting power.

The wood fibres of a bow may be ruptured in two ways: elongation of the fibres beyond their elastic limit which results from overdrawing the bow. This will inevitably result in a broken bow if done repeatedly and it can occur the first time that a bow is overdrawn. Repeated flexing or drawing and shooting the bow will finally weaken the fibres until they begin to break down. The fibres will stand only so many distortions before they may be said to have worn out. For this reason the life of every bow is limited.

Reducing the amount of material in the back of the stacked bow, Figure 12, and changing the shape of the back from round to flat produced the back now used in the manufacture of the modified flat bow. The extreme outer fibres of the back being equidistant from the neutral axis are stressed in equal amounts when the bow is drawn. In this type of back there is therefore no single point of greatest stress on the surface and consequently no weakest point.

We have discussed the forces that act on the back of the bow. Let us now examine the action of the internal forces in the belly of the bow which is the side toward the archer (Figure 12.)

To Be Continued.

NEW CHARTS AVAILABLE

Wildlife students will be happy to learn that the Pennsylvania Game Commission is now offering for sale a new set of four bird and mammal charts. These beautifully reproduced paintings from the brush of the late Jacob Bates Abbott are printed in full color on 20″ x 30″ paper, matching the original bird charts in size and execution.

One chart (Pennsylvania Mammals —first group) depicts the raccoon, gray squirrel, fox squirrel, opossum, black bear, white-tailed deer, wildcat, cottontail rabbit, woodchuck and varying hare. Another (Pennsylvania Mammals—second group) shows the otter, mink, beaver, weasel, red fox, gray fox, skunk and muskrat. The third (Pennsylvania Owls) illustrates owls of eight species found in the Keystone State, and the other (Pennsylvania Summer Birds—second group) consists of twenty-two species of summer birds not shown in the first set of bird charts published by the Commission.

When ordering these charts please specify by name the ones you desire and enclose the proper remittance with your order. Charts are sold for fifty cents each, or $1.50 per set of four.

Incidentally, the four original bird charts—Pennsylvania Summer Birds (first group), Pennsylvania Winter Birds, Pennsylvania Game Birds, and Pennsylvania Birds of Prey—have been reprinted, and are again available at the same price.



Hound Dogs

By Herbert Kendrick

OUR earliest histories have recorded the great advantages of dog ownership, and from the very beginning it is clearly shown that of all beasts of burden, the dog is the only one that is a willing servant and not a slave. Whether the dog drew a cart, carried a pack, watched the sheep, guarded the home, fought in the arena, trailed criminals, pointed birds, trailed fur game, or was used only as a house pet, he has always managed to worm his way into the heart of his master to such a degree that he is considered an important part of the family.

It is extremely pleasing to me to meet any man who loves a dog, and it matters little what breed enjoys his devotion. I could never seriously enter into the controversies of rating one breed beyond another because a man is surely entitled to select one that meets his particular needs. Fortunately through the years famous dog breeders have successfully developed animals for specific work and different climatic regions. It is simple and easy for a sportsman to select not only a breed adaptable to his area and task, but even the color, confirmation, and personality he desires.

The American trail hounds, as specialists that vary greatly, are perhaps our oldest sporting dogs, and their development and use grows greater with each passing season. Many men who prefer to do their shooting on the skeet fields are turning toward hounding because it does not require killing and will furnish sport for thousands if and when killing for sport will cease.

The houndsmen are a closely woven clan enjoying to the fullest the musical cry in the night, and rest proudly on their laurels for the great contributions to dogdom in their never ending desire to produce the perfect hound.

American breeders require hounds for low swampy woodlands, hilly terrain, warm and cold climates, and specialists on particular types of game. To meet all these requirements our breeders took the basic European stock and then concentrated on the individual dog.

To qualify in the field the modern hound had to have stamina, good nose, informative voice, eyesight, speed and endurance. Conformation was forgotten while usefulness was paramount. Color became important and lent itself to naming individual breeds such as the Redbone, Bluetick and the Black-and-Tan.

The Black-and-Tan is from English stock, breeds true to type, while the Bluetick is difficult to trace because of many crosses. He is excellent for large fast animals, and his great speed enables him to excell in fox hunting. The big husky dog is a match for the cunning coon.

The Bluetick is easily trained and in most cases stays trained once he is familiar with his task.

The Redbone possesses a good nose, great speed, and rare ability to tree his game. It is reported that he came from a cross between the Irish hound and the English Bloodhound. These valuable hounds easily adapt themself to climate and terrain. Their desire to hunt is second to no dog, and yet at home they are quiet and thoroughly enjoy human companionship. They are also easily trained and many start at a very early age.

The Black and Tan is a cold nosed coon specialist with long ears and a bugle voice. *Trig* and *Birdsong,* two southerners are responsible for our breed of today. This ol' boy is handsome, intelligent, and a credit to any kennel.

American foxhounds enjoying exceeding popularity in organized hunt clubs are the Walker, July, Trig, Virginia, Maryland and Pennsylvania. These dogs are noted for beauty, nose, gameness, endurance, hunting desire, intelligence and all around quality performance.

The Plott hound is an interesting individualist because of his origin, use, and extreme courage. Perhaps he is more interesting to me because I was fortunate enough to hunt behind a Plott pack for boar in western Carolina where this breed was first used in this country.

Johnathan Plott brought the dogs here in 1750 where they were used for various tasks, including sheep herding. However, they were mainly used for bear and boar. Today the breed is recognized and dog authorities report they bring the highest prices ever paid for dogs.

Plotts are about fifty pounders which is slightly smaller than most hounds except the Beagle and Basset. They are born fighters and as tough as leather. Mountain lion, wild cats, big bear, and all tough game are a little easier with a good Plott.

Two lovable breeds of smaller hounds are the Beagle and the Basset. These dogs in the hound group are similar to the Cocker and Springer in the bird dog field. These affectionate little animals are rabbit pushers and furnish real sport to millions of gunners. Rabbit hunting remains the most popular sport in America today, and it is easy to understand when you see Bassets and Beagles pursuing their favorite game.

In recent years both these breeds have been successfully used for hunting ringnecks, grouse and woodcock. We shall discuss these dogs as bird finders in a later issue.

These are the gentlemen of the hound breed. They make friends easily, are easy to teach, well mannered, attractive, and love every member of the family. They are easy to keep as house dogs and excel at the bench show.

Hounds are interesting dogs and have furnished American sportsmen great pleasure for years. The Father of our Country, George Washington, spent many happy hours with his famous hounds.

Join the great organization of sportsmen who follow the hounds and learn how great the out-of-doors can be.

. . . *The End.*



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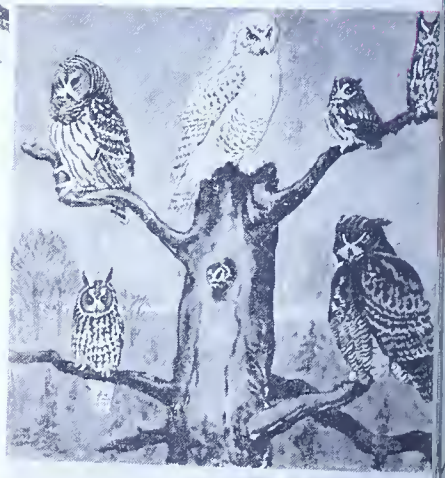
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THE STORY BEHIND THE COVER

THE sight of quail on this month's cover will bring back fond memories to the minds of many an old-time hunter—memories of "hammer guns" and black powder, of zig-zag rail fences half buried in honeysuckle, of the pulse-quickening whirr of a bursting covey.

No doubt about it, "Bob White" was a popular game bird in those days. His very abundance assured the hunter of success. He held well before the point of those big lumbering setters of years ago—none of those race horse tactics employed by the late-coming ringneck. As though this weren't enough, he had a sweet disposition, a cheery song, and an insatiable appetite for destructive insects and weed seeds that combined to endear him to hunter and farmer alike.

Unfortunately, the quail coverts of yesteryear contain only a fraction of their original population. Where grandfather once found several coveys now only a few birds can be found.

On the surface it seems that the decline in the quail population was due chiefly to the adoption of clean farming practices throughout most of Pennsylvania's bobwhite range. There can be no doubt that the replacement of the old rail fences with modern strands of wire, and the accompanying cleanup of brushy fencerows left these birds vulnerable to the onslaught of the elements, hunger, and predators. But this does not explain their failure to recover, at least to a satisfactory degree, during the years that followed such destructive winters as the one of 1935-36, or why other northern states with similar food and cover conditions did not suffer an equal number of quail casualties in the same severe weather.

The Pennsylvania Game Commission is currently carrying on a research project designed to reveal the answers to these questions and eliminate all guesswork in quail management. Research technicians are endeavoring to learn the part played by food and cover, by predacious birds and animals, by the elements, by diseases and parasites in regulating the bobwhite population. No possible factor will be overlooked. Their findings will be made public in the next issue of GAME NEWS, Special Issue No. 4, which will be available during the latter part of March.

The Game Commission joins the sportsmen of the state in hoping for a satisfactory solution to the quail problem. May those little feathered folk on the cover and their progeny fill the coverts in which they are released to the bursting point.

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JOHN S. FINE, GOVERNOR

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THIS month the nation will observe National Wildlife Week. For three days approximately 1500 fish and game administrators, foresters, sportsmen and conservationists from every state, Canada, Mexico and Alaska will discuss management and restoration problems at the North American Wildlife Conference in Miami, Florida.. Immediately afterwards the annual conference of the National Wildlife Federation will be held in the same city with delegates representing 42 states or conservation agencies attending.

It seems incredible that wild birds, animals and fish should be the objects of such intense interest in a modern civilization such as ours, for to the uninformed wildlife is a relic of the past—a nuisance to be pushed aside by the onrushing tide of progress. But when the truth is known, our wildlife is assuming greater importance to the American public with each passing year.

For instance, last year the hunters and fishermen of our nation spent $9,200,000,000 for their sport! This amount exceeds the combined volume of the furniture, draperies, radio and household appliance businesses. Needless to say, this money spent by our sportsmen contributes to the prosperity of practically everyone—proof of the economic importance of our wildlife.



But there's more to it than that—another side of the picture that is often termed the appeal of wildlife. Perhaps you've felt it as a child, watching a hungry bird at your window-sill feeder. It's the invisible thread that draws the old duck hunter to his blind on a blustery November morning. It is expressed by the irrepressible grin that brightens your face after you miss a brush-cutting grouse.

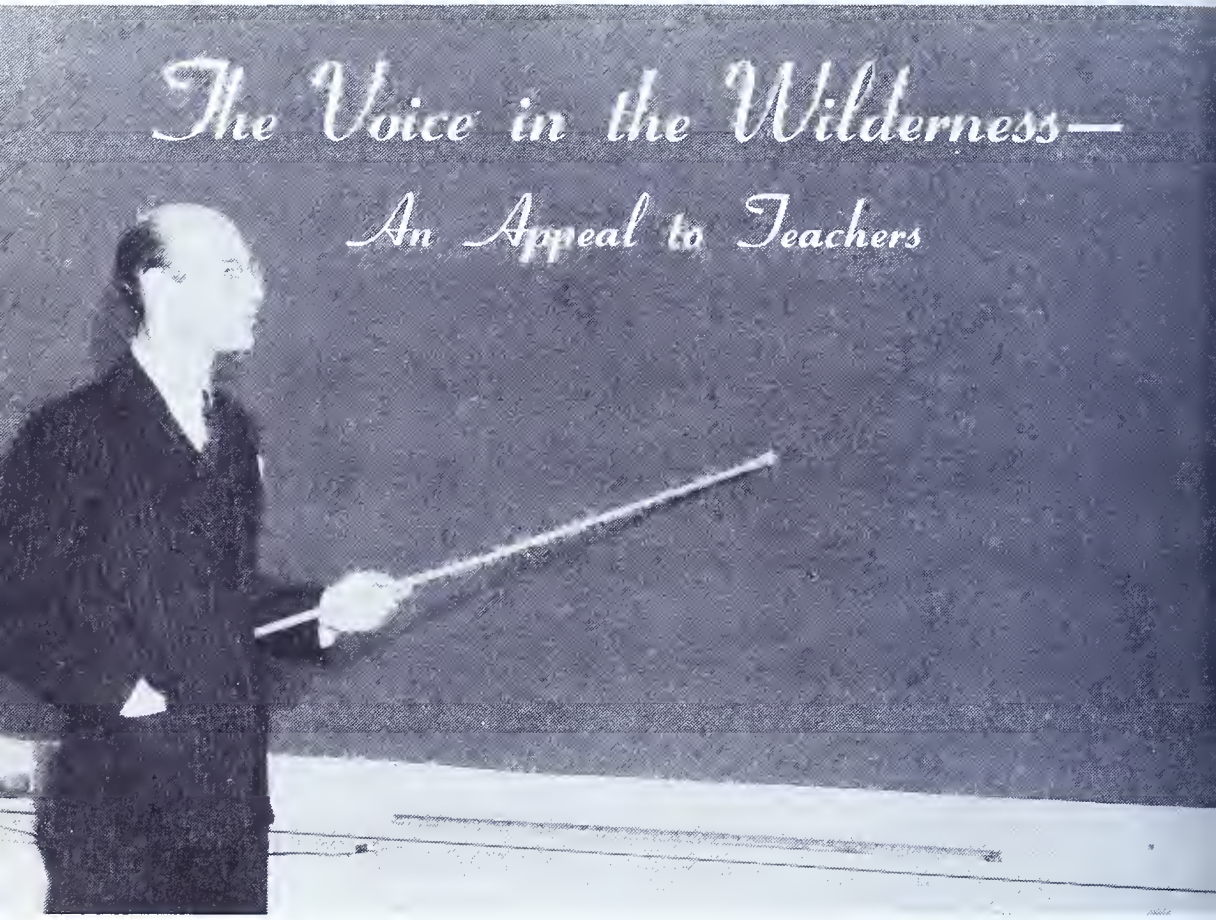
The appeal of wildlife is by no means confined to individuals. Years ago it infected the people of our country to the extent that it halted the market hunting of our waterfowl. It provided sanctuaries for our vanishing big game species. It brought back from the brink of extinction the egrets, the trumpeter swan and the sea otter.

Truly the universal appeal of our wild creatures is a powerful factor in conservation today. It must surely be the motivating force behind an event such as Miami is experiencing this month. Only a real love of their work could inspire these men and women to the heights they have heretofore attained, in spite of determined opposition and public apathy. And only the nation's growing fondness for wildlife and God's great out-of-doors make conservation the *big* thing it is today.



The Voice in the Wilderness—

An Appeal to Teachers



PGC Photo By Batcheler

The teacher is the most powerful influence in determining the future thinking of his charges. Each and every child can be made a potent factor in the future determination of our fate.

By N. R. Casillo

EVERY intelligent and competent teacher is acutely aware of the need to conserve our natural resources especially in the face of the unusual demands being made upon them by the defense effort. And every teacher should realize that he or she may be a powerful influence in the conservation effort.

The need to conserve may be seen on every hand. Those who are in a position to know declare that the quantity of our resources wasted equals the quantity purposefully utilized. It is further contended that if we are confronted with a full scale emergency the use of our resources will treble.

We, all of us, are prone to view the wonderful scientific progress that has been and is being made as an accomplishment attributable solely to man's efforts. It is so easy for us to overlook the fact that the raw materials necessary for this advancement are derived from a bountiful nature. And in the headlong rush of progress and exploitation we blind ourselves to the fact that the raw materials are not limitless.

In helping to stem this avalanche of waste the teacher need not deviate from the regular course of study. Nor will it be necessary to take special courses in order to do a good job.

The crux lies in the ability of the teacher to arouse in his pupils the interest for the out-of-doors with which they are naturally endowed and in many cases lies dormant.

In the face of the impending dangers with which the world is beset, the voice of the teacher may seemingly be as one lost in the wilderness. However, their concerted efforts and the impact which they will make on our youth cannot be overestimated.

To make the subject matter as effective as possible the teacher should have a thorough grounding in the overall problem. No, not burdened with a vast amount of statistical material, but armed with a few common sense observations that will impress the pupils with the vital importance of the subject. The following background material should help.

There is a colossal ignorance about conservation among all classes of people, even among those who are educated and profess to be well-read. Invariably, those who know little or nothing of the subject readily associate the term with the activities of the outdoorsmen and especially of those who pursue the sports of hunting and fishing. Others have heard it used in connection with forestry activities, and since they are interested in neither forests nor the activities of sportsmen, then, why should they envolve themselves in the subject.

Let's try another angle. No one in this country, not even the poorest of individuals is undergoing any hardships. The most poverty stricken family has a roof over its head, facilities for cooking, beds to sleep on. The primary needs of the human animal are met by these simple essentials. In other words, certain peoples are satisfied with their lot just so they and their children are not actually suffering. They do not question any shortcomings in their lot because they are unaware of any.

Those who enjoy a higher economic status are even more remotely removed from any problems excepting those which immediately affect them or/and their families. They are envolved in a vast ramification of activities which are far removed with what they consider some outlandish problem with which the scientists are successfully coping. Why bother with something that does not concern them? Why bother with something that is so far in the future? Actual want? Why, we'll be dead long before we are affected by it. Why look for trouble before we are actually confronted by it?

Then, there is still another group comprised of people who think beyond their own material needs, beyond their circle of social activities. They are concerned about the future of their children and the inadequacy of the world into which they will shortly be thrust. Will it be a world like what they (the parents) knew? Will it offer their children the opportunities with which they were presented? Will it be a safe world or one beset with monstrous and ever-impending fears?

There are people who think of these important things. Yet, too often there is a lapse in their thinking. We become satisfied with life as we find it and wonder why we are beset with silly notions that the status of the world dwells on the horns of a dilemma, i.e., if it is not destroyed at once by atomic warfare, then, it will fall heir to the slow grinding processes of increasing want and eventual starvation.

Perish the thought. It all sounds so unreasonable. Why, only last week the family across the street "graduated" from a car of medium price to one in the top brackets. And look, look out the window and see the number of television aerials adorning or defacing homes up and down the street. Does all this sound like impoverishment? Yet, that feeling of uneasiness persists. Our thoughts turn to the world unrest and we are stunned

by the fact that Jackie or Joey or Sammy are but months away from induction into the armed forces.

In this vast, infinitely complex and intricately balanced state of human society, it is so easy for us to be lulled into a state of false security. This by the very fact that it is so very large and impregnable. Society, we reason, is stronger than anything in the world; indeed, it comprises the world. Where would science and business and the arts and everything else be if it wasn't for society? Then, suddenly we recall something. We may have read it or heard it over the air, to wit: "Society as we know it can be destroyed by another war."

Why should this be? It is because the world, i.e., human society, is suffering its first pangs of want. Yes, it is beginning to feel the pinch of both material and spiritual wants. But, we reason, there is no starvation or actual want in this country; it's in countries across the sea. Respite from worry lasts only as long as we lose sight of the fact that even remote lands are a part of the world in which we live. Sooner or later the entire world will be encompassed by these wants unless we do something about it.

All too frequently it seems that the agencies which can do the most in furthering a cause are the ones that are most reluctant to do it. School authorities feel that the purpose of the schools is primarily to educate and not be mediums for the peddling of various propagandas. They (the educators) feel that the schools are asked to adopt every new course that comes along. In other words, many school administrators for reasons best known to themselves, are unwilling to keep their curriculums abreast of the times; reasoning, of course, that any new course of study foisted on them has little if any pedagogical value.

In 1951 the American Association of School Administrators went on record as endorsing the teaching of conservation in our public schools. They even went so far as to procure a rather weighty tome entitled CONSERVATION. Now, despite what appears at first hand to be an important step toward the adoption of conservation study by our schools, really resolves itself to the rather dubious position of being but partially supported by those who had a hand in its inception. In other words, not all of the educators whose names appear in their year book wholly approve it. This means that those who are in accord with the plan are confronted by the task of first educating those who are not. It's as paradoxical as stealing the barn to get the horse.

Here is how the teacher may step in and fill the breach until the administrators can make up their minds.

Elementary school subjects are ideally suited for the inclusion of material most acceptable to the child at what probably is the most impressionable age. It is only necessary for the teacher to present a simple story of an animal, a plant or any of the many nature subjects which fit in with the lesson. In the first four grades any nature material is avidly devoured by the pupils. This not only increases their knowledge of the common living things about them, but also leaves them with impressions which will stand them in good stead in the more advanced grades as well as throughout life.

The experts say that children are most impressionable between the ages of five and ten; that any lesson, well taught and interesting, remains with them indefinitely. If an appreciation of our renewable resources is implanted, together with the story of how they may be made to last forever by the observance of a few natural laws, a child cannot help but grow up with a conservation consciousness.

It has been proved time and again that people cannot be frightened into doing things. No amount of intimidation or even threats of death can for long prevent people from follow-

ing a certain course of action. The rash of highly emotional as well as statistical books about our deminishing resources which have lately appeared are read by those who are already aware of the situation. The mass of the people who really should be made cognizant of the conditions are permitted to go on in ignorance for fear that they might seek a revolutionary answer or worse yet, inaugurate a strict dictatorial program. Incidentally, neither would provide a way out.

On the other hand, we have known for a long time that there is nothing as effective as education for implanting certain concepts in both the adolescent and adult mind alike. Such subjects as reading or writing are acquired so naturally and so logically as to become a very part of the individual. A thorough knowledge of conservation principles can be implanted just as easily.

We have developed highly successful methods of teaching, but many of the subjects taught must necessarily be considered antiquated. They are neither in step with the times nor with the ever-increasing complexity of modern living. We have been so busy teaching our children how to make a living that we have failed dismally in teaching them about those things upon which their living depends. Even highly precocious children with an admirable command of the common school subjects know but little about living. Throughout their school years all children are made to feel that our natural resources are subjective rather than dynamic; as a means to an end and that end being of primary importance to the individual. We have developed a high standard of living at the expense of those things which should enable us to live amicably with other nations. We are today trying to make up those shortcomings by attempting to rehabilitate or arm or feed a vast array of impoverished nations at the expense of our own dwindling resources.

Teachers are in a position to achieve what politicians, diplomats, commissions, reams of speeches, vol-



umes of really terrifying books and an endless procession of alphabetical agencies have failed to accomplish. Certainly, all of the foregoing have played a part in making an increasing number of people aware of what confronts us, but the vast and infinitely complex ramifications envolving the problem eventually becloud the real issue; a world rocking issue made a pawn by the selfish interests of individuals as well as nations. Let us repeat that no number of threats, abject fears or menacing pronunciamentos make an impression on the adult status quo.

The teacher is a most powerful influence in determining the future thinking of his charges. Each and every child can be so thoroughly imbued or indoctrinated with the concepts of conservation as to make him a potent factor in the future determination of our fate. Succintly, the idea is to produce a generation of children so thoroughly impregnated with the necessity for conserving as to leave not the slightest doubt about their future direction when dealing with the problem. When the time comes they will take to it like the proverbial duck. There are those who would call it regimentation, yet, it must be conceded that the method is an effective one. Why hesitate to use it for a worthy cause?

The idea, then, is to slant the earlier school subjects, courses and projects with the beauty of our land—the majesty of its mountains and lakes; the vastness of its plains and forests; the interesting lives of its wild creatures. This can be done by relating stories, anecdotes and even experiences as adjuncts to the regular subject matter. Is there a teacher with soul so dead who cannot see the beauty of our great land even though much of its original riches are gone? Is there a teacher so unresourceful as to be unable to expand an allusion to nature or to one of its wild denizens? Would any teacher find it impossible to elevate himself to that pinnacle of inspiration which the pride of citizenship in a great land arouses? If you yourself have the enthusiasm for living, then, you cannot help but transmit it to your pupils.

Teachers in the first four grades literally hold the molding of little lives as well as the destiny of a nation in the palms of their hands. It is in these grades that a love of nature and nationalism can best be taught because the human mind is then at its most plastic and absorbent stage.

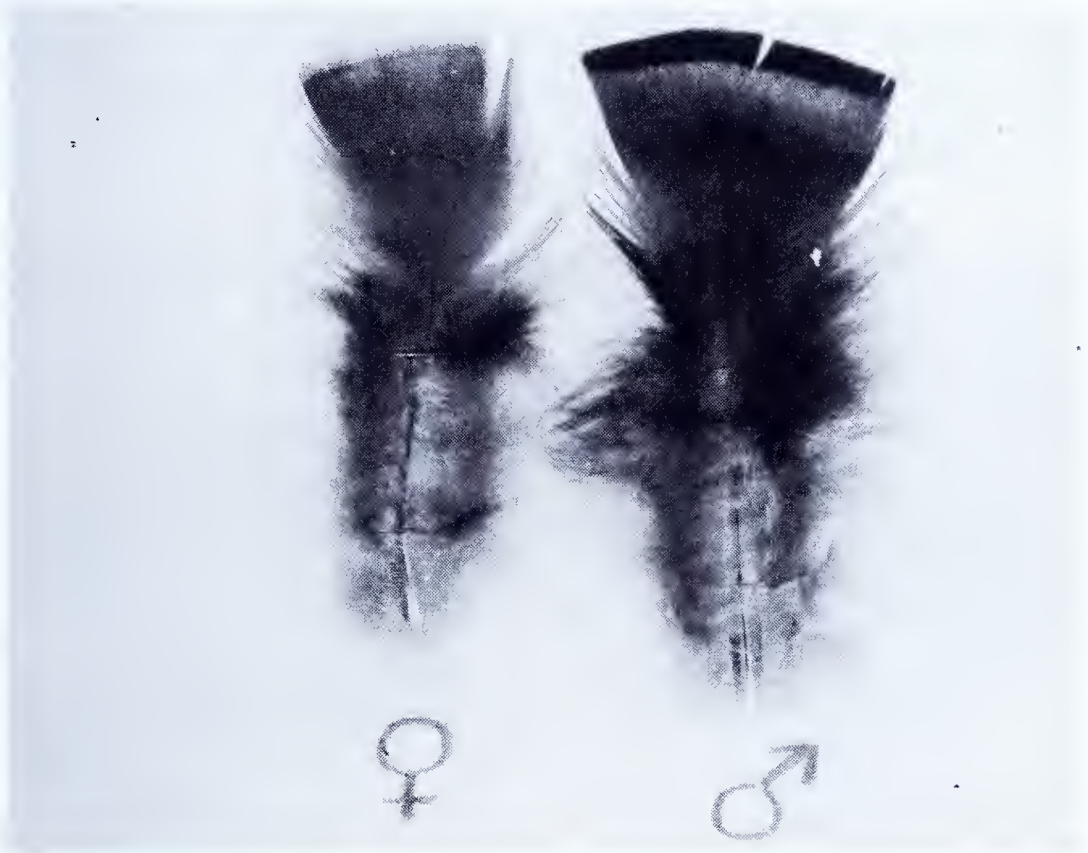
Of course, the process should not stop at the fourth grade. From there on the teacher should gradually lean toward the more practical aspects; what the conserving of our natural resources means to the individual, the nation, the world. In so doing the teacher should never entirely relinquish the concepts of beauty and inspiration which were previously emphasized. They should unobstrusively provide the theme necessary for motivation.

We now have a loyalty oath for all state employes. Indeed, every teacher in the Commonwealth is required to sign and uphold it. How infinitely more practical it would be to require every teacher in our public schools to slant all school subjects in every grade, with the necessity of wisely using the natural heritages provided us by a bountiful Creator. Would that not be the acme of patriotism?

Equipment? Primarily, a zest for living the American way; an appreciation of the things basically responsible for making life what it is plus a determination that those things shall not go for the sole aggrandizement of a few whether they are individuals or nations.

What good will it profit mankind to inherit the earth after it has been completely shorn of its riches? It would be as meaningless as conquest without victory.

. . . *The End.*



PGC Photo By Latham

Contour feathers from the breast of wild turkeys. Black-tipped feathers of male at right and buff-tipped feather of hen at left.

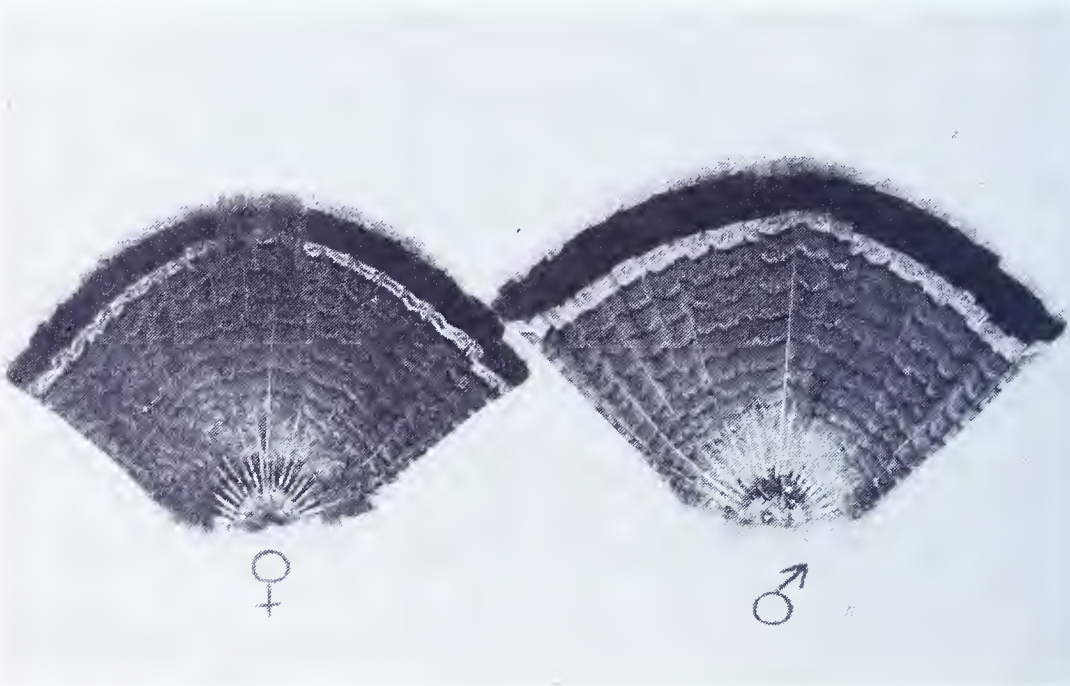
Cock or Hen?

By Roger M. Latham

(Editor's Note: In order to determine the age and sex ratio of the past season's kill Roger M. Latham, Chief Wildlife Research Division, recently requested the wings and tails of grouse and the feet of turkeys killed by hunters. The response was very gratifying, and Mr. Latham wishes to convey his sincere thanks to all who cooperated in this study. During the course of the survey a great many hunters expressed interest in the methods used in sexing game birds. The following article was prepared to answer their questions on this interesting and useful subject.)

THERE'S nothing in the world that will impress your hunting companion or some hunter you may meet in the woods quite so much as to walk up to him and say, "That's a dandy cock (or hen) grouse you have there." He'll probably come right back at you with: "How can you tell it's a cock instead of a hen? I thought they couldn't be told apart."

If you know your facts, and you should before you stick your neck out, you can prove to him conclusively that any hunter can tell whether he's killed a male or female *ruffed grouse* by merely examining its plumage. feathers when plucked. If the overall length is less than six and one-eighth inches the bird is almost surely a female, and if over six and one-half inches in length it will be a male. If it falls between six and one-eighth



PGC Photos By Latham

(Above) Tails of grouse showing solid sub-terminal black band in male at right and broken band in female tail at left.

(Opposite page) Mounted ruffed grouse showing dark bars on the upper breast between the ends of the ruff on the cock on the right. The necklace is lacking on the hen on the left.

The first thing to look for is the broad black band near the end of the tail feathers. If this band is unbroken (see photo) on all of the tail feathers, the bird is a male. But if the band is broken on the middle two tail feathers, it may be *either* male or female, and it is necessary to inspect other plumage characteristics for positive identification. Even when the tail band is broken, the mottled design is usually more nearly solid on the middle tail feathers of the cock.

The next characteristic is the length of the tail. In the hen it is much shorter, and the criterion is to measure one of the two middle tail and six and one-half inches, it may be either.

The cock grouse has a series of definite, dark bands ringing the front part of the neck between the ends of the ruff. This is known as the "necklace" and is lacking in the female. She has a few disconnected spots which form no definite pattern and are usually light in color. The ruff itself is more prominent in the male and usually extends downward past the bend of the wing. In the hen, it seldom reaches the wing and is relatively inconspicuous.

And finally, the rump feathers (on the back immediately above the base

of the tail) extend beyond the tips of the wing feathers in the male, but are covered by the wing tips in the hen. And in the cock, the spots on the rump feathers are arrow-shaped, but these are less distinctly formed in the hen.

the upper surface of the tail may be rufous (light oak) or a silver gray or any gradation of the two. The rufous phase is more common on the southern part of its range, and the "silvertails" occupy the more northern portions.



An examination of a few specimens in the field or even a few mounted birds will soon make the average hunter an "expert" in sexing ruffed grouse.

One word of caution is interjected here for those who aren't dyed-in-the-wool grouse hunters. There are different color phases, and these variations in color should not be confused with sex characteristics. The ruff and the broad sub-terminal tail band are most commonly black but may be chocolate brown to dark red on some birds. Likewise, the predominant color of

The *sharp-tailed grouse* of the West can be sexed with fair accuracy by examining the pattern of the middle tail feathers. The male usually exhibits a longitudinal pattern, but the feathers of the female have a transverse or cross-wise pattern. This characteristic is not infallible, but holds good most of the time.

Since a marked weight difference exists between the sexes of these grouse, most of the few "doubtfuls" can be eliminated by weighing the birds. Most female sharptails fall within the one and one-half to two

pound class, and males usually weigh two to two and one-half pounds. A big bird with a confusing tail pattern is almost sure to be a male.

Little need be said concerning the sexing of bobwhite quail and ringnecked pheasants. Anyone who has hunted bobwhites knows that the throat patch and the line extending from the bill over the eye is white in the adult cock, and these same feather areas are a rusty tan or buff in the hen. And of course, the brilliant plumage of the ringneck rooster, as compared to the dull brown of the hen, is familiar to everyone. This difference is so obvious that most states have a "cock law" which prohibits shooting anything but male ringnecks.

The *wild turkey,* the noblest of all North American game birds, also exhibits characteristics which enables the hunter or the wildlife technician to distinguish the sexes. The hunter may say, "Anyone can tell a gobbler from a hen. He has a beard and spurs, he weighs more than the hen, and,—well, he just looks like a gobbler." But at least fifty per cent of the hunters who kill turkeys are not sure which they have killed. Hens also have beards and spurs, and an old hen may weigh more than a young tom.

But there are several good ways of making sure of your trophy. One of the very best is to examine the breast feathers of adult turkeys. If these are black-tipped, the bird is a gobbler, but, if they are tipped with buff, it is a hen (see photo). The feathers which cover the bases of the large tail feathers (upper tail coverts) are chocolate brown in the gobbler and light tan in the hen.

Long, well-developed spurs are found only on the older toms, but small spurs may be found on both young gobblers and old hens. A few hens will grow beards the first year, but nearly any hen with a visible beard will be two years of age or older. The beard of gobblers is thick and coarse, but that of the hen is thin and fine. Of course, the toms have more caruncles (wart-like projections) and bare areas around the head and neck.

The feet of gobblers are larger, and any bird with a middle toe of more than three and one-quarter inches is almost sure to be a male. Also, the track of a hen is narrower than that of a gobbler, and with a little experience the hunter should be able to determine the sex of a bird he may be following in the snow. As a rough criterion, turkeys weighing less than ten pounds in the fall are most likely to be hens; those weighing between ten and fifteen pounds will be old hens or young gobblers; and those over fifteen pounds will almost always be old gobblers.

With these characteristics in mind, there will be little excuse for a hunter to brag to his wife about the big old gobbler be bagged just because it happened to have a beard a few inches long. He may even prove that he is a real sportsman and conservationist by picking a gobbler out of a flock and saving the hens for brood stock. After all, one gobbler is sufficient for a harem of several hens, and, for this reason, many toms can be harvested by hunters without reducing the reproductive potential of the flocks in the slightest.

The *Hungarian partridge,* or gray partridge, is another which baffles the average sportsman. But the sexes can quickly and easily be distinguished merely by examining the "shoulder" feathers on the wing which overlap the bases of the flight feathers. These upper wing coverts, as they are called by ornithologists, in the male have a single buff stripe running lengthwise through the center of each feather, but those of the hen have a wider buff center stripe and two to four buff crossbars.

The cinnamon-colored "horseshoe" marking on the breast is not a reliable sex characteristic, but the

bright rust-colored head of the male is a distinctive marking, because this area is paler in the female.

By far the best method for sexing *woodcock* during the hunting season is to measure the bill. Females have bills which average about two and thirteen-sixteenth inches in length, but those of the males average only two and one-half inches. To separate the sexes, those birds with bills two and three-quarters inches or over are almost always females, and those with bills two and nine sixteenth inches or less are most likely to be males.

Similarly, most birds weighing over 210 grams (7.4 ounces) will be females and those weighing under 170 grams (6.0 ounces) will usually be males, although there are some exceptions to this rule. The only really foolproof method for woodcock is the internal examination of the gonads (sex organs), and this method will be described later.

In adult *mourning doves*, the popular game bird of the South, a difference in the color of the breast and top of the head is used to differentiate the sexes. The breast of the male is tinged with a faint pink color which is not found on the plain brown breast of the female. The top of the head (the crown) in the male is bluish-gray, but the same area is brown in the female. Young birds which have not acquired their mature plumage are more difficult to determine.

In all cases where a doubt exists concerning the sex of a game bird which has been bagged by a hunter, there is one infallible method which can be applied to all birds. Within the body cavity can be found the two testes of the male or the ovary (egg mass) of the female. When a sportsman dresses his game, he can check the accuracy of any of the other methods just described by examining the primary sex organs.

After the gizzard, liver, and intestines have been removed, the gonads can be located lying along the backbone just below the lower tips of the lungs and just above the upper tips of the kidneys. One of the easiest ways to determine the proper position of these organs is to grasp the breast with one hand and the legs and the lower portion of the body with the other and break the back at the narrow waist. Just back from this point (toward the tail) can be seen the two testes of the male or the egg cluster of the female.

The testes, in late fall when most birds are shot, will be much smaller than during the breeding season. In the smaller game birds, they may be no larger than grains of rice and will lie parallel, one on each side of the backbone. In larger game birds, they will be more the size and shape of navy or marrowfat beans. They vary in color from a light gray to almost black. The ovary will appear as a great many extremely tiny eggs in larger game birds, and will lie in the same position as the testes except that the mass occupies a median position directly over the backbone. In smaller birds, such as the dove and woodcock, the ovary will have the same general appearance but perhaps will measure no more than one-eighth to one-fourth inch in length. With a little practice the hunter will have no difficulty finding these organs and will be able to sex his trophies quickly and accurately as he cleans them.

These notations of sex are often of great value to the state game departments, and records kept by hunters over a period of years might be exceedingly useful in planning management measures for the various game birds. At any rate, a hunter can add a considerable amount of pleasure and satisfaction to his sport if he can identify the sex of the bird he has just killed at a glance. And sometimes by sparing the hens, he can actually contribute to the prosperity of the species and aid in the perpetuation of his own recreation.

. . . *The End*

Outdoor Reveries



By John H. Day

March Fare

THE redwinged blackbirds either failed to hear the soothsayer warning Caesar of the Ides of March, or they chose to pay no attention to this prophet of doom. One day before the fateful Ides they pulled up into the big sycamores across the valley, fresh from the rice fields and marshes of the southland. They brought along their own band to signal their arrival and for an hour or more the welkin rang "with social cheer and jubilee."

This advance guard was made up entirely of male birds, each wearing his new coal-black uniform with scarlet shoulder epaulets. The countryman hears these redwing "jam sessions" in the treetops and knows that another planting time is close at hand. I propped a chair against the sun-warmed south foundation wall and enjoyed the reedy concert. Suddenly as with one accord, the whole entourage took off across the hills to carry their gladsome message to some other expectant valley.

During the bright noon hour a day or two before the red-wings arrived, a pair of bluebirds moved in on us with a proprietary air we hope will be permanent. I heard the unmistakable alto warbling of the soft-spoken blue-coat and we first spied him in the pear tree. Then he flew to the honeysuckle pole in the side yard and serenaded his mate, who appeared to be inspecting the premises with an eye to possible building sites.

Two Summers ago we were honored by a nesting pair of these beautiful neighbors, who raised two broods in a bird box on the side of the garage. Last year they failed to settle down and I have been blaming the pesky starlings and the bullying English sparrows for their seeking out more respectable surroundings. This year we'll try a new box in the fence row, and will post watch against all interlopers.

The weekend came up with a raw March afternoon that carried a penetrating chill in the teeth of a gusty breeze which grounded all activity in the thickets. I made one tentative foray but gave up the day as unprofit-

able for hiking purposes, although I did note a sizeable raft of ducks riding the choppy water on one of the larger reservoirs.

The next day was milder, and the forenoon arrival of the redwings motivated one last trip afield to hob-nob with the faithful wildlings who have greeted me cheerfully along the wintry waysides. I parked the car on the cindered roadway and entered a path which threads the wooded hillside hard by the wide valley stream.

Apparently the word was out that old Neb-nose would be along that way. I had hardly moved out of sight of the car when I came across the whole Winter entourage, plus one big brown bird which may have been a fox sparrow, but which I could not identify with certainty.

Song sparrows were chanting by the creekside, and the usual gang of chickadees and tufted titmice moved through the undergrowth. Juncos and tree sparrows were ground-feeding, and flew out ahead as I advanced. A flight of goldfinches passed overhead. A tiny brown creeper worked his "beat" on a huge water elm, visibly annoyed by a pair of downy woodpeckers who insisted on patroling the same territory.

Farther on I came across a pair of the larger hairy woodpeckers, and watched a crow moving stealthily through the timber, although it is a little too early for this sable fellow to be actually house-building. Only the nuthatches and the kinglets were missing from this last roundup of the commoner Winter birds of this area. From now on they will be engulfed by the rising tide of feathered migrants. In another week or so they will move into the background, until the chill blasts of another October send the Summer boarders fleeing southward.

A honeybee droned through the thickets as I hob-nobbed with the chickadees. She whined in a high-pitched complaint, as though traveling in high octane fuel. Probably for easy starting on the chill March mornings. A lone water strider skated about over an ice-rimmed pool, and skidded clear out on the ice as I stopped by. These insects spend the Winter clustered under the banks by the streamside.

The redwings paid no heed as the soothsayer warned of the Ides of March. But the icy agents of the frost king may well beware the tides of March—those Spring tides which are now flowing in the sugar camps, and in the swelling buds, and in the pulsing throats of every little songster of the fencerows.

The March hare sat beneath the thorn bush and eyed me with distinct disfavor. His nose savored the distasteful man-smell and his long ears flopped lower on his shoulders. I could almost see him getting madder by the minute as I swung along the trail through his wild apple paradise. Finally he got so mad he huffed out of his snug "form" and stomped off up the hillside, his white powder-puff tail flashing indignantly through the undergrowth.

Just before I ran across the mad March hare I had put on a ludicrous exhibition of rare-bird stalking along the hillside. The day had been marked by a stiff breeze that at times grew almost to gale stature. Any bird that had any sense was somewhere over the hill, in the lee thickets protected from the searching blasts.

A foolhardy crow or two and one lone tree sparrow scudding before the breeze were all the birds I had seen and I should have known that the orange billed creature in the hawthorne bush ahead was a mirage. There it sat, well up on the bush, apparently a large bird with a bright orange head or bill. While the wind rattled through the thicket I could see this "bird" buffeted by the blasts, its feathers blown awry.

As I crept stealthily closer I could imagine this exotic creature starting

nervously on the perch, and twisting and turning to eye me excitedly after the manner of all feathered wildlings. Even at thirty paces I was still not aware of the hoax, but as I drew nearer the picture cleared and I suddenly realized that what I was stalking was a fragment of a Sunday comic page, blown into that thorn bush to plague me with optical trickery.

After this letdown I was almost as mad as the March hare who scampered away through the briers. I followed this cottontail at a more sedate pace and came around a shoulder of the hillside into a wooded swale where each year I go to admire the purple-mottled hoods of the skunk cabbage pushing up through the muck to sound the tocsin for another Spring.

Spotted about through the marshy area of this little glen were a dozen or so the more venturesome cabbage hoods, protecting the fleshy spikes which carry the multitude of tiny yellow blooms. I splashed across this hidden swale and drove straight up the hillside through the big timber. The brown leaves were dancing on the forest floor. Each gust sent them scurrying busily hither and yon, like petty politicians seeking the bandwagon in an election year.

The countryman who walks the forest trails during a gusty March day knows why the Anglo-Saxons called this the loud month. I found a dry seat against the sun-warmed bole of a huge black maple, and loafed awhile as the brown leaves whirled in dervish dances all about. The steady roar of the gale in the treetops sounded almost exactly like a long heavy-laden freight rumbling by in the distance.

Few of the normal woodsy sounds could break through the wind music. Occasionally some lofty limbs would rub together, producing a banshee wail, and once I heard the high-pitched cackling of the pileated woodpecker who has been gouging great openings into the decaying stubs in the deeper parts of this forest.

The trout streams are tumbling down from their mountain strongholds, racing boisterously across hemlock-shaded flats and brawling noisily through rocky defiles as they shoulder their way out to the wide valley bottoms. The gamey brookies have dropped down stream from their spawning beds, where last Fall they deposited the eggs which will hatch as the April sun warms the shallow flats near the headwaters.

Now as they note the lengthening days these darting jewels of the swift water begin to develop an appetite and they seek out pools and eddies where they can lie in wait for whatever provender the stream rolls past the doorstep. They face little competition, for most of the lazier fishes prefer the easier life of the slower currents far downstream.

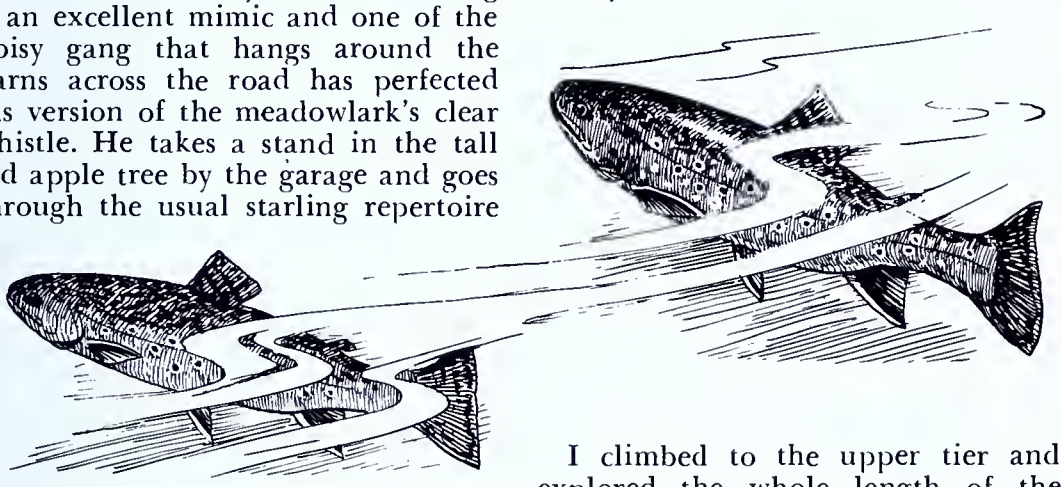
In the many nameless "runs" which play second fiddle to the bigger waters, the black-nosed dace and the common shiner are again on the move. A few tiny sunfish and the sculpin known as the miller's thumb are usually seen in company with the schools which dart about excitedly as the countryman's shadow falls across the narrow pools.

As a sort of trial heat for the heavy water work of the trouting season just down the calendar a few weeks, I donned knee boots and splashed along with a robust stream which threads a valley not too far from our home doorstep. About the only fish to be found in this water is the picture on the side of a rusting salmon can, but at least it's a stream, and at this time of the year it works up a real enthusiasm.

I came to a sand bar where many bits of debris had found lodgment. Reverting to boyhood days I spent a good half hour kicking these chunks into the main current, where they immediately became the caravels of childhood, riding bravely down the

rapids to the sea. That was one of the most enjoyable half hours I have "put in" in recent memory.

Twice during the past week I have been completely fooled by the omnipresent starlings into believing a meadowlark had set up his music stand in our front yard. The starling is an excellent mimic and one of the noisy gang that hangs around the barns across the road has perfected his version of the meadowlark's clear whistle. He takes a stand in the tall old apple tree by the garage and goes through the usual starling repertoire of squeals, chuckles, and gurgles, now and then breaking this routine with a perfect rendition of the meadowlark's cheery chant.



The downy woodpecker, press-agenting Miss Springtime, has been beating the publicity drums mightily during the week. I hear him each morning as I leave the house, rolling out his long tattoo on a well seasoned sounding board. While strolling in the deeper timberland I heard one of these fellows practicing at his drums. The sound rolls through the forest, stirring the hiker's jaded blood far more effectively than any Spring tonic.

For some reason or other the owls are shunning me this year. I have made several trips afield with the express purpose of interviewing one of these big "winged cats" and have been rewarded with neither sight nor sound of the quarry. Things got so bad I finally agreed to settle for a chance meeting with one of the more common screech owls. These little fellows like to doze away the daylight hours in a convenient tree hollow, and are partial to old orchards.

There's an abandoned orchard in our neighborhood which should include several good screech owl hide-outs among its many attractions. It lies on a hillside, hard by a favorite piece of timberland, and is now grown up with brambles and scrub cherry.

I climbed to the upper tier and explored the whole length of the orchard. There were several sizeable trees, but nowhere did I come across a cavity big enough to hide a screech owl. At the end of the long row of trees I cut down and back through a lower tier. After closely scanning perhaps one hundred trees I gave it up as a bad job. I have no doubt there is a good owl tree somewhere in that abandoned orchard, but I couldn't find it and the owls are not talking.

It is amazing how the Spring chores can pile up about a country home. There are always several tasks ahead, even though a full weekend is given over to getting the routine jobs out of the way. Many of these tasks are a delightful interlude to the man who loves the outdoors and likes the feel and the smell of things close to the earth. Burning over the sod ground is one of these joyful jobs and the Spring "brushing out" with the pole axe another. Perhaps the hardest work is preparing the garden plots for the plow and the harrow. But the recompense comes in the knowledge that the soil has once again been prepared to "bring forth a hundredfold."

. . . *The End.*



Outdoor Kids

By Hal H. Harrison

ALL kids have heard that old expression, "Playing 'possum."

Billy and Jane have heard it many times and have used it themselves. It comes from the ability of an opossum, in the face of danger, to pretend it is dead.

One day, the children found an opossum high in a tree on Pleasant

Hill Farm, and they were eager to see it play 'possum. However, the opossum had other ideas. It knew that it was safe up there in the tree, so it just sat and sat and sat, doing nothing.

After awhile, Billy and Jane became tired watching it. They went away for about an hour and when they returned, Mr. Opossum was gone.

The trick of pretending to be dead (if it is a trick!) is a clever one. No doubt it has saved the lives of many of these little beasts. When playing 'possum, the animal curls up into a sleeping position, head between the front legs. Its eyes are closed. The gums are stretched back from its teeth. No amount of rough treatment will cause it to show signs of life.

The opossum is a remarkable creature. It belongs to the same order of mammals as the kangaroo . . . the pouched animals that carry their young in a special body pouch. This is a fold of skin stretched around eleven to fifteen milk glands. The purpose of the pouch is to carry the five to fourteen tiny opossums after they are born.

Opossums are so small when they first crawl into their mother's pouch that all of them may be held in a teaspoon. The entire litter weighs about one-fifteenth of an ounce! The babies attach themselves to the milk glands inside the pouch and remain there for six weeks or longer.

With the aid of its bare tail, the opossum can hang downward like a monkey. This may help it in climbing. An amusing sight is a mother opossum with her tail over her back and a line of baby opossums riding on her back with their tiny tails wrapped about their mother's.

The opossum has many teeth and eats almost anything. It is often hunted for food, especially in the South.

. . . *The End.*

"DO SOMETHING ABOUT IT"

In his monthly Remington News Letter Henry Davis says:

"There is only one way in which we can improve our own outdoor recreational opportunities. That is by *doing something* about them." With the full realization that the future of hunting is dependent upon the efforts of the individual, Davis suggests the following resolutions:

"I will

"1. Join a Sportsmen's Club and take an active part in its program to better hunting and fishing conditions in my own community.

"2. Support and, to the extent of my ability, participate in the efforts of national organizations dedicated to wildlife restoration.

"3. Obey the game and fish laws and encourage others to do the same.

"4. Take no more than my fair share of game and fish regardless of bag and creel limits.

"5. Make friends with a number of farmers, and try to bring about a better farmer-sportsman relationship by both precept and my own example.

"6. Make occasional trips into the field during closed seasons and gain more first-hand knowledge about habitat conditions.

"7. Try to apply this knowledge in constructive suggestions for my Club's activity program.

"8. Respect the rights and opinions of both the landowner and my fellow sportsmen.

"9. Take a youngster hunting and fishing at least once during the year.

"10. Help teach novitiate hunters the principles of safe gun handling and encourage, in every way I can, reduction of hunting and fishing accidents."



SCS Photo

This photograph shows Bucks County pond thirty years ago. (see opposite page)

Water
Too Little and Too Foul

By Frank C. Edminster

The Nature of the Resource

IT is a trite statement—but true—that water is the life blood of the land. Those who have not lived in a waterless country take water for granted. If they think about it at all, their thoughts are apt to emphasize the nuisance of the rain or snow rather than their life-giving qualities. As with most commodities, water is appreciated most when it is scarce. The magic that water can bring to an arid land is an impressive sight to behold. After months of parched desolation, a few rains in the spring and the desert suddenly blooms with a profusion of lovely flowers that seems almost incongruous in their sandy setting. In a few days their splurge is over and the flowers disappear for another year, most of them with plants and all. Not so with a few favored places, though, After flying for hours over the arid wastes of our vast Southwest, one suddenly spies a vivid green patch ahead—an irrigated valley, such as, for example, the area around Phoenix, Arizona. The contrast between barren desert and lush greenery is so tremendous as to seem unreal. It is the difference between a good supply of water and almost no water.



SCS Photo

The same pond as it looks today. Soil erosion and the resultant siltation has completely filled the pond.

We soil conservationists have rightly preached that man must have an ample area of productive topsoil if he is to prosper. It is equally true that he must have water to go with the good land, else it is no good. But this water problem is unique in many ways, ways that are often quite different from soil conservation problems.

Water is an indestructible resource. There is practically as much water in the United States today as when the Pilgrims landed. In this respect it is very different from topsoil which is easily destroyed and lost for centuries of time. Only age-long changes in the relations of the earth and sun, rising or falling mountains resulting from the aging of the earth; the geologic changes that produce an ice age or a Rocky Mountains—these are the only things that upset the general amount of water available. Despite this relative stability of the resource, our water problems are being aggravated more and more. They are becoming acute in many ways and in many places. To a growing extent, water is becoming a crisis. Why?

Varied Interests in Use of Water

One clear-cut reason for growing water troubles is that a constant supply, relatively speaking, is progressively required to serve a larger number of people or a bigger and bigger industry. Thus, as New York City grew in population and the per capita consumption of water increased, its reservoirs became inadequate and more had to be built. At the same time, siltation was reducing the capacity of some of these reservoirs. Then when a drouth year arrived, as it recently did, and the reservoirs were depleted, the city came perilously close to a major disaster. Picture, if you can, New York City a week after water quit flowing from its faucets! It's too awful to think about.

Many of Philadelphia's industries use underground water pumped to

the surface. The level of this sub-surface water—the "water table"—has dropped year after year as the demand exceeded the rate of replenishment until now salty sea water, not usable, is seeping into these water strata. When the stable ground water recharge is exceeded, a shortage is inevitable. Portions of California's underground water supplies have thus been drained to irrigate orchards and vegetable fields as well as furnish water for her cities. These are examples of numerous cases of demand exceeding supply with resulting lowering of water tables. The water table generally is normal, however, being substantially the same as it was a hundred years or more ago.

The condition of our surface waters is quite another matter. Under original forest conditions the rainfall was mostly absorbed by the plant cover and ground litter. Streams were relatively steady flowing and free of silt. Other pollutants were unknown. Now the watersheds are covered with cut-over and grazed woods, pastures and cultivated fields mostly handled in an exploitive way of farming. Rain rushes to the nearest waterway carrying surface soil with it. This topsoil is segregated, becoming gravel bars in the swift-flowing sections, silt in the quiet stretches. Streams that once sparkled with jumping trout now sport bass if they are not too far gone, suckers and other rough fish in many. Wastes of cities and industries add the final debasement, reducing many a stream to the condition of an open sewer. These surface waters belabor the farmer alternately with damages from excessive and inadequate amounts for his crops and animals. The recreational values of streams are reduced or lost. Periods of heavy rainfall bring ever-increasing damages from floods, largely induced by mistreatment of the watersheds. Siltation impairs reservoirs and on the larger rivers it hampers navigation too. Tax money in larger and larger amounts is needed to keep the channels open for boats.

Surface water is impounded for several purposes. While there is much talk of "multiple purpose" reservoirs, many of these uses require different methods of management, hence conflict. Thus, a basin to be effective for flood control must be kept at a low normal stage to keep a large storage volume available to hold flood water. It is relatively useless for water power, civic supplies, navigation or recreation. A reservoir used to stabilize flow for navigation must release its water during low water periods when it is most needed for some other reservoir purposes. If fishing and hunting are of prime importance, a steady, full level is best. Thus it is clear that there is bound to be tremendous competition for the use of the water in reservoirs—especially since good reservoir sites are very limited.

Efficient farming requires that the soil be "well-drained" so as not to drown out crops, and yet have an adequate amount of water in the surface soil to feed the crop plants. That's often a neat trick to accomplish. Many clay soils and low-lying fields have to be tiled or ditched to carry off excess water. Even in the humid Eastern states, rainfall is not always dependable enough for safe farming and irrigation systems are installed. Not infrequently, both drainage and irrigation may be applied on the same land. Water needed for irrigation is another demand upon the supply—the pre-eminent one in many parts of the West—and requires reservoirs, wells, or other sources of supply that are dependable throughout the crop growing season.

Many of our valuable wildlife species are aquatic and thus are associated with a watery habitat. To some degree they compete with other interests for the use of water or water areas. Ducks, geese and other kinds of waterfowl and shorebirds are the most prominent group of aquatic

game birds. Among the aquatic mammals, the muskrat, mink, beaver and raccoon are valuable fur-bearers. All fish are denizens of lakes and streams, those of the trout family being most finicky in their requirements. Misuse of the land has seriously injured all these kinds of wildlife by increasing the intensity of floods and drouths, causing siltation and warming of waters. Pollution has ruined many of our streams for fish. Agricultural drainage in some areas has caused the loss of some aquatic habitat. On the other side, creation of new farm ponds and larger impoundments has added to the living space for these creatures. Management of large reservoirs for purposes other than wildlife often limits their value to fish and game but most of them serve some good purpose.

As our population increases, industries expand and continued misuse of the land further aggravates the damages from water, it is obvious that our water problems are due to increase. Water is destined to be a matter of increasing concern to the American people for a long time to come. We can theoretically overcome our water problems, most of them, but it will require a much more judicious program than now exists.

Land Treatment, Impoundments and Pollution Reduction

We cannot increase the supply of water coming to the earth although recent developments in "rain making" indicate that we may hurry up the arrival of rain at times. Our water problems must be solved by judicious control and use of the same amounts



SCS Photo

A farm pond that furnished fire protection and recreation for a Lehigh County farm family.

we have always had. Three major methods are open to us and all are necessary. By land treatment we can cause more rainfall to seep into the ground where it falls, cause less of it to race off to the sea to be lost until it is evaporated into the air and regathered into rain clouds. This means soil conservation and forestry and involves a complicated program of land use adjustments to comply with the natural capabilities of the land and a wide variety of conservation practices tailored to fit the specific needs of each area of crop land, grass, woodland and wildlife land. Not only will soil be preserved and farm crops benefitted but other values will accrue too. Wildlife will have improved habitat. Flood crests and drouth intensities will be reduced. Silt damage will be curtailed and streams gradually healed of the wounds of erosion.

Such a land treatment program is essential to the solution of our water problems. It is a feasible and profitable program but it cannot be accomplished by governmental action alone. It requires the cooperation of hundreds of thousands of farmers who own and manage the land that needs improvement. A fine start has been made through the soil conservation districts work aided by many agencies of local, state and federal government but the big part of the job is still ahead.

Even were we able to perform the miracle of completing the needed land treatment program over night, we would still need impoundments for many purposes. Land treatment alone cannot provide the water power for electricity we need, nor the stabilized flow required for river navigation, or the downstream flood water control essential for our vulnerable valley cities. The melting winter snows of the western mountains must be caught and held in artificial basins if water for irrigating crops for arid soils is to be available in summer. Large and small water impoundments will be needed for recreation, farm water supplies, waterfowl breeding and resting places and many other purposes. These two aspects of water development—land treatment and impoundments—should and can be well integrated to meet the needs of our people. A significant fact is that 93 percent of Federal expenditures in the soil, water, wildlife and forestry fields up to now and in present plans for the future have been allocated to the construction of *large* impoundments; only 7 percent for all the rest —according to Bernard Frank and Anthony Netboy in their recent book *LAND, WATER and PEOPLE* published by Alfred A. Knopf.

The third phase of the water program is to eliminate the unnatural pollution of our waters caused by cities and industries dumping their wastes into streams. If we were to adopt the philosophy of refusing to foul our valuable waters by dumping our sewage and industrial by-products into them, our streams could be renovated. Some progress is being made as more cities install sewage treatment plants and industries take care of their wastes. Some factories today are boasting that they return the water they use to the river more pure than they received it. That is a good sign. We must take pride in being decent about our natural resources. No doubt stronger laws will be required to force recalcitrants into line for the public good. Pennsylvania has already made great strides in this direction by requiring that the wastes of its coal industries be kept out of the streams. We need to go much farther, until every community and every industrial unit can say "we do not pollute the water that belongs to everyone." Surely the cost of this pollution prevention is as just a part of the cost of a product or of city living as anything could be.

To sum up, it is clear that there is much man can do to solve his water

problems. Much progress has been made already but much more needs to be done. Almost surely our water problems will get worse before they get better. We need to pursue a three-part program of land treatment, creation of impoundments and pollution control that is well balanced. With all of this, there will be some water problems unsolved. Where there simply isn't enough water to meet mans' needs in an area, his populations or his industrial development will thereby be limited. For the most part, his destiny with water lies in his own hands.

. . . *The End.*

STATE'S 1951 SMALL GAME BAG ANNOUNCED

The following figures on Pennsylvania's 1951 small game harvest represent the compiled estimates submitted by all State Game Protectors. (As soon as the final tabulation of deer and bear kill tags is made, the large game bags of last year will be announced.)

Upland game bird totals jumped considerably, in comparison with the 1950 figures. The ringneck pheasant bag increased over 32,000 cocks, for a total of 385,598 birds. The wild turkey take was 8962 birds, which was an exceptional one-year increase of nearly 3700. Ruffed grouse killed numbered 45,250, nearly 9000 more than in 1950. Bobwhite quail taken totaled 7363 this past season. This was about 2900 more than in the previous one.

The cottontail rabbit harvest fell off over 295,000 from that of 1950. The 1951 estimate stands at 1,258,246. The snowshoe rabbit kill at 1506, was barely better than that of the previous season. Squirrel hunters had a fair season. They took, in the combined species, an estimated 541,158 bushy tails, a single year decrease of about 5400. Raccoons taken by trap and gun numbered 99,413, improving the 1950 figure by nearly 25,000 ringtails. The woodchuck bag was pegged at 258,314, which was some 6600 whistle pigs more than the year before.

The total of wild ducks and geese killed in the Commonwealth in the 1951 season was placed 56,529, an increase of more than 4,000 fowl over 1950. The woodcock bag was not so encouraging, being estimated at 14,409, a drop of almost 3100 in one year. The combined take of rails, galinules and coots was estimated to be 6755, which topped the 1950 figures for these birds by about 1800.

All in all, considering both forest and farm species, Pennsylvania's 1951 small game season was generally good. In some categories, as with ringnecks, turkeys, grouse, and raccoons, there was a marked improvement in hunting results. As always, the success varied from one section to another, dependent on numerous factors that determine game abundance or scarcity.

The principal discordant note was provided by the lowered cottontail kill over much of the state. Predation, disease and mechanized equipment always cause an early summer rabbit population to dwindle 75 or 80 per cent by fall. But late in the summer of 1951 there was a drop that belied the usual cottontail population checks provided by field observations and road kill counts. The extremely dry months of last summer apparently favored the ringneck but not the rabbit. For one thing, such dry weather fosters the increase of parasites that infest, and often kill, rabbits.

Report on First Archery Season

By ROGER M. LATHAM



PENNSYLVANIA had its first special archery season for deer during the two week period from October 15 to 27, 1951. Altogether 5442 of the two-dollar Special Archery Licenses were sold. Only bucks were legal prey during this season, with the usual Pennsylvania requirement that there be two or more points to one antler.

Following the season, 32 hunters returned their big-game tags reporting success in killing a buck. To secure reliable information about the season, and about the bowmen themselves, a questionnaire was sent to



each of the 32 successful hunters. From the 29 completed forms returned, some interesting information was obtained.

The 29 bowmen hunted a total of 105 days (531 hours) with and average for the group of 3.6 days or 18 hours. They saw 126 legal bucks with an average of 4.3 per man. These hunters shot at 57 of the bucks, killed 29, and crippled 2 others. The number of antler points ranged from 3 to 10.

It took an average of 1.6 arrows to kill a deer, with a maximum of 5 and, of course, a minimum of 1. The average shooting distance was 32 yards. One buck was killed at 70 yards and the shortest shot was 10 yards. Eighteen of the bucks were standing, 8 walking, and 3 running. The deer travelled an average of 215 yards after being shot, but one managed to go nearly a mile. Four died right where first hit, 17 moved 100 yards or less, 10 travelled between 100 and 500 yards, and 2 moved over 500 yards.

Only one man of the 29 used a deer call.

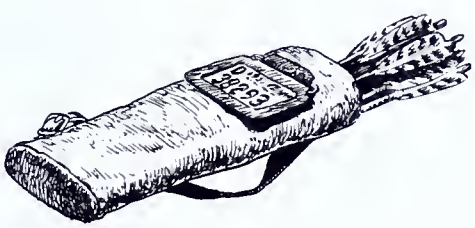
Another lot of questionnaires was sent to the members of one of Pennsylvania's archery organizations. Of this group, 83 returned completed forms. The 83 hunters had spent a total of 417 days (2,887 hours) in the deer woods, with an average of 5 days (35 hours). They saw 245 legal bucks, or an average of 3 per man, and shot at 77. Only 3 were crippled.

For both groups, it took an average of 9 hours of hunting to see one legal buck at this time of year. Because the archers were so widely scattered over the state, there was little chance for one hunter to chase a deer into another hunter. Unlike the regular season, it was a case of the hunter pitting his stalking skill, or his patience in sitting and waiting, against the superbly keen sense of sight, hearing, and smell of the deer. The fact that only 32 hunters were successful gives a good indication which proved the winner in most cases.

In the regular rifle season when 400,000 or more deer hunters may be in the mountains, the deer are often so thoroughly surrounded that they are likely to run into hunters no matter where they go. Thus, skill plays a relatively unimportant role during the regular season, and for most hunters bagging a deer becomes pretty much a case of being in the right place at the right time. This is one of the principal reasons why the archery season appeals to a select group of hunters who prefer to get a maximum of sport and satisfaction from their outdoor recreation.

One of the most surprising bits of information gleaned from the questionnaire was the fact that 23 of the 29 successful bowyers were hunting with the bow and arrow for the first time. If this small sample is indicative of the whole, then it is apparent that the first Special Archery Season was responsible for about 4,000 sportsmen taking up this new method of hunting deer. And the indications are that next year will see even more converts to the use of these primitive weapons.

. . . *The End*





Visitors From the Northwest

MECHANICSBURG—On Sunday, January 6, I was called to the home of Mrs. S. Harper Myers, 215 E. Simpson Street, Mechanicsburg, Pa., to look at some interesting winter bird visitors. When I arrived there I found a small flock of Evening Grosbeaks feeding at the bird feeders which Mrs. Myers keeps constantly supplied with scratch grain and other food for the birds. I counted fourteen



of these rare winter visitors feeding vigorously. Earlier in the morning Mrs. Myers had counted twenty-four in the flock.

The Evening Grosbeak is about the size of a starling, olive green to yellow body, with black and white wings and tail, and a heavy cream-colored bill. The female is paler but the general markings are much the same. They breed in northwestern United States and southwest Canada. According to bird authorities, they come east of the Mississippi only occasionally, and then only in winter. Residents of the Harrisburg area can consider it a privilege to see these rare visitors from the northwest. Charles F. Stambaugh, Wildlife Protection Division.

Old-Timers

WEATHERLY—During the past hunting season I took particular notice to the age of some of the hunters which I checked in the field. The younger hunters are still in the majority. However, I came across an eighty-three-year-old bear hunter, an eighty-six-year-old deer hunter and a trapper over seventy years old that had trapped twenty-two foxes. The eighty-six-year-old hunter was by himself and had walked more than six miles when I checked him. He did not gripe about the hunting conditions nor the weather. He had run out of cigarettes so I gave him enough to last until he reached his home. District Game Protector Glenn A. Kitchen, Weatherly.

Vandals Damage Farmers Equipment

STROUDSBURG—Another 119 acres of good hunting land has been closed to hunting in Monroe County due to the vandalism of two unscrupulous hunters. During the past small game season on the farm of Adam Kuehner, one hunter shot into Mr. Keuhner's potato sprayer and another shot a tire flat on his lime spreader. Mr. Kuehner estimates the damage at around $60.00 and stated that from now on this farm will be posted. District Game Protector John H. Doebling, Stroudsburg.

Weasel Loses Prize

UNION CITY—A trapper, William Kroski, reported that while patrolling streams to locate beaver colonies, he saw a large brown weasel with a freshly killed rabbit. Mr. Kroski, having no gun, tried to kill the weasel with a club, but it man-

aged to escape. Later in the day Mr. Kroski returned to the same spot and found tracks in the snow indicating that the weasel had returned to recover his kill and while dragging it away, a fox intervened. The tracks indicated that there had been quite a battle. The fox took the rabbit and the weasel escaped after giving up the unequal struggle. District Game Protector Elmer D. Simpson, Union City.

Honker Hankers For Attention

RENOVO—Last fall, H. M. B. Weicksel, President of the Western Clinton Sportsmen's Association saw a wild goose on Kettle Creek that didn't act like a wild goose. It was a Canada Goose swimming along as if in Central Park. Some of the children present fed bread, peanuts and other tidbits to the goose. The strange part of the affair was the fact that the goose was alone, where it came from and where it went to must remain a mystery. District Game Protector Charles F. Keiper, Renovo.

Big for His Age

WESTFIELD—During the past bear season I know of four bear cubs being killed. All of these cubs were turned in by the men shooting them and a quarter-penalty paid. One of the cubs weighed 93 pounds before it was dressed. This substantiates at least in part the information given by Supervisor Sherman that cubs sometimes weigh as much as legal runt bears. District Game Protector Gerald W. Cyphert, Westfield.



High-Diving Fox

CONFLUENCE—In October while Special Fish Warden, Robert Augustine and Scott Holliday Addison were moving down stream on the Youghiogheny river and above Route 40 they observed something leap from the rock walled parapet into the river. Speeding up their boat they overtook a gray fox swimming the river. The fox was dispatched to the great beyond. District Game Protector William Lane, Confluence.



Nature's Own Coon Trap

MILESBURG—Found a coon that had wondered out on the freezing slush which covered a layer of ice on a pond on Spring Creek, in Centre County. The coon became trapped when all four of its legs became frozen in the ice, and finally perished.

I picked up a sick coon at the same sight for shipment to our research laboratory. Other reports have reached me about coon being in a "drunken" condition in this area. It is believed that the coon frozen in

the ice must have been in this condition. District Game Protector Charles M. Laird, Milesburg.

Sportsmen Nab Cheaters

WILCOX—A number of *Good Sportsmen* made it a point to get the license numbers of hunters who shot illegal deer and in most cases the offender was apprehended and paid the penalty. These sportsmen are to be commended for their interest. All we need is more of them. District Game Protector Vern A. Van Order, Wilcox.

Saving Ammunition

SMETHPORT—Deputy Carlson related the following. On December 15 he observed a hunter dragging an anterless deer out of the wood and stopped to check it. He then noticed that the hunter was not carrying a gun and asked him how he killed the deer. The hunter reached into the back of his hunting coat and brought out the barrel of a carbine and very sincerely stated that after he shot the deer he went up to it and that it then charged him and he hit it on the head, breaking the stock off the gun, there is not much doubt but that the gun was loaded and fortunately we did not have another hunting accident. District Game Protector William H. Shirey, Smethport.

Fox Put to Flight

WESTFIELD—Deputy Snyder related the following incident to me, which I think a bit unusual. While on patrol checking deer hunters in Red House Hollow during the deer season, Deputy Snyder's attention was attracted to a spot near the edge of an old field, by what he thought was a dog barking. He scanned the area with a pair of binoculars, saw two deer acting strangely and soon noted the reason for their strange actions. A red fox would bark at one of the deer and rush to attack it. When the deer struck back the fox would then turn his attention to the other deer, which in turn would charge at the fox, striking out with its front feet, driving the fox away. This affray lasted for several minutes before the fox finally gave up the fight. District Game Protector Gerald W. Cyphert, Westfield.

Mink On the Warpath

MANSFIELD—Mrs. Luther Fish of Mansfield R. D. No. 3 was attacked and bitten by a mink as she was crossing the lawn of a relative's farm home. The mink chased her and her son and daughter-in-law into the car where it followed them. Her son, Edgar, finally drove the mink away, only to have it return and jump up under the hood of the car where it took refuge in a crevice under the fan. All efforts to dislodge the animal failed so Mr. Fish drove to Randy's Service Station at Mansfield, where Ray Sumner and Bernard Randolph removed the animal.

The two men were able to snare the mink and pull it from its hiding place only to have it attack them when it was free. Sumner, in order to protect himself, ended the animal's spree with a blow on the head. A later laboratory examination failed to disclose any indication of rabies, and no explanation can be given for the animal's strange behavior. District Game Protector James A. Osman, Tioga.



Delaware County

Site of Penn's Landing

Nineteen in a Series

Note: This center sheet can be removed if desired, without damaging the magazine, by loosening the two center staples.

Land Area

The county contains 122,432 acres of which 19,964 acres are forested. There are 45,088 acres in farm lands. Publicly owned land comprises 549 acres, of which only 10 acres are State owned.

Topography

Most of the county is extremely flat. Bounded on the southeast by the Delaware River it is drained by Cobbs, Darby, Crum, Ridley and Chester Creeks. A large part of the river frontage consists of vast marshes.

Transportation

Railroad service is furnished by the Pennsylvania, the Reading, and the Baltimore and Ohio railroads. The county is traversed by the Baltimore Pike (U. S. 1), the Lincoln Highway (U. S. 30), the 28th Division Highway (U. S. 322), and has 419 miles of improved State highways.

District Game Protector

Daniel S. McPeek has jurisdiction over the entire county.

Fish Warden

Horace A. Pyle, R. D. 2, Coatesville.

Agriculture

In spite of its small size and dense population Delaware County has 25,000 acres under cultivation, and agriculture is a very important source of income. Truck farming and mushroom growing are the principal agricultural industries.

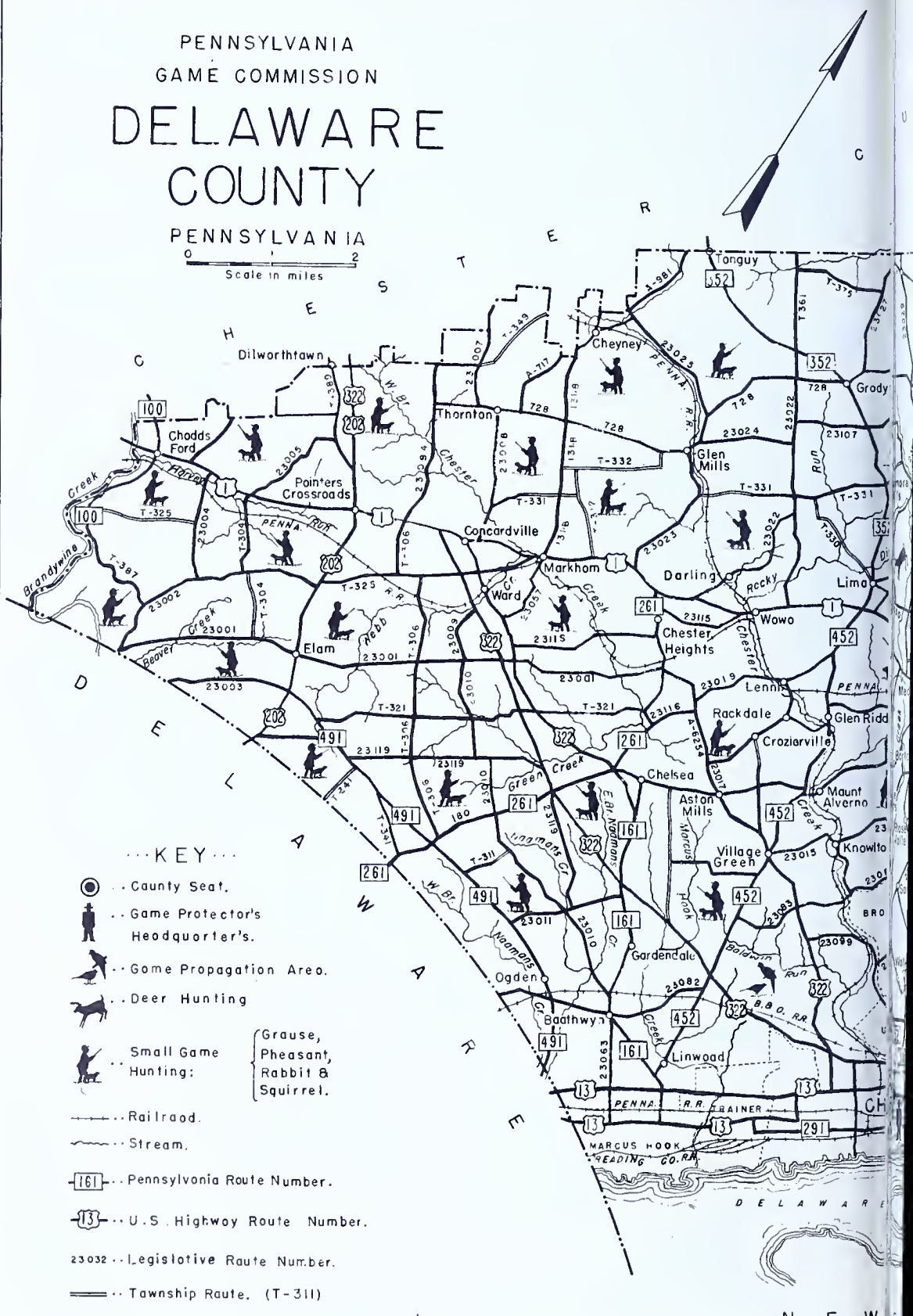
Industry

The city of Chester is noted for its shipyards and Marcus Hook is the location of one of the world's greatest oil refineries. Other industrial products are textiles, chemicals, paper and printed matter, locomotives, machinery and parts, linoleum and oilcloth, and rayon.

Historic

Pennsylvania's first permanent settlement by white men was made in 1643 by pioneer Swedish settlers. Forty years later William Penn arrived at Upland, the site of the Swedish settlement, and began colonization of the land granted him by King Charles II of England. Penn later changed the name of Upland to Chester, and it was here that the first Assembly met, adopted Penn's Frame of Government, enacted the first body of laws, and organized the County of Chester. Delaware County was formed in 1789, six years after the close of the Revolution.

The historic Battle of Brandywine was fought at Chadd's Ford during the Revolutionary War. Two other spots of historic interest are Old St. David's Churchyard, Radnor, burial-site of General "Mad" Anthony Wayne, a hero of the Revolution and one of America's greatest soldiers; and the birthplace of one of the Nation's most famous early painters, Benjamin West, in Swarthmore.


PENNSYLVANIA
GAME COMMISSION
DELAWARE
COUNTY
PENNSYLVANIA
0 2
Scale in miles
Dilworthtown
Thornton
Cheyney
Glen Mills
Concardville
Markhom
Darling
Wowo
Chester Heights
Lennit
Rackdale
Croziarville
Glen Ridd
Chelsea
Aston Mills
Village Green
Maunt Alverno
Knowlto
Gardendale
Ogden
Baathwyn
Linwood
Elam
Pointers Crossroads
Chodds Ford
Grody
Lima
Rocky
Ward
Tonguy
Marcus Hook
PENNA. R.R.
READING CO. R.R.
B. & O. R.R.
CHESTER
TRAINER
DELAWARE
KEY
County Seat.
Game Protector's Headquarter's.
Game Propagation Area.
Deer Hunting
Small Game Hunting: Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
Pennsylvania Route Number.
U.S. Highway Route Number.
Legislative Route Number.
Township Route. (T-311)
N E W


Don't Shoot!
WITHIN 150 YARDS OF
BUILDINGS
MONTGOMERY COUNTY
PHILADELPHIA COUNTY
Woyne
Saint Davids
Rodnor
Wyolo
Villanova
Clydes Corners
Newton Square
Bryn Mawr
Lorchmont
Newtown
Broomall
Coopertown
Brookthorp Hills
Springton Reservoir
Worrell
Ookmont
South Ardmore
Beechwood
Brookline
Penfield
Monoo
Llonerch
Burmont
Kirklyn
Morple
Media
Bowling Green
Springfield
Bortondale
Addingham
Drexel Park
Gorrettford
Upper Darby
Milbourne
Wallingford
Rose Valley
Cardington
Sackville
Swathmore
Morton
Secane
Rutledge
Fernwood
Avondale
Waterville
Pleasont Hill
Wyndom
Glenoloen
Rioley Park
Prospect Park
Norwood
Sharon Hill
Colwyn
Folcroft
Eddystone
Essington
Clifton Heights
Lansdowne
Aldan
Yeadon
Darby
Collingdale
Penna R.R.
Reading Co. R.R.
B&O R.R.
Darby Creek
Cobbs Creek
Crum Creek
Ridley Creek
Stoney Cr.
Meadow Brook
Wigwam Run
Union Green
Chester River
LAM. '52

The court house in Chester, built in 1724, is the oldest public building in Pennsylvania.

Quakers from New Jersey settled in this region, and these were supplemented by other Quakers who came directly from England.

Educational institutions of higher learning are: Swarthmore College, Villanova College, and Pennsylvania Military College.

Recreation—Hunting

Practically all of the county's rabbit and pheasant hunting is found on private land. Organized fox hunts are a popular sport. The Tinicum marshes furnish excellent duck and shore bird hunting.

Recreation—Fishing

Fishable waters (name of stream, fish stocked, location and length of stocked waters) include: Chester Creek, brook and rainbow trout, Media, Rt. 1, 7 mi.; Chester Creek, W. Branch, brook and rainbow trout, Media, Rt. 1, 6 mi.; Ridley Creek, brook trout, Media, Rt. 1, 4 mi.



PGC Photo

Fox hunting on horseback is a popular sport in Delaware County.

Reload to Keep Shooting

PART VI

By Ed Shearer

PROBABLY no discovery by man has contributed so much in the making of our modern civilization as gun powder. The reason for this lies in the fact that with the aid of this magic substance small bodies of men could defend and maintain themselves against great bodies of men not so equipped.

Thus the dark continents of the world began to feel the weight of expansion of the more enlightened races as opposed to the rather tentative thrusts of roving adventurers. Our country is an example. The vast resources of the world were made available for the advancement of man by gun powder. While it may be said that the pen is mightier than the sword a calm appraisal of the centuries would indicate that gun powder was more potent than either of them.

A study of gun powder leaves one in considerable doubt as to who actually discovered it. Some sources say the Chinese, others the Hindus, while others credit the invention to one Berthold Swartz. It is known for certain that a German Monk in a written manuscript in the year 1249 A. D. accurately described its composition.

But whoever was the real inventor of gun powder it is a fact that guns and cannon were in use prior to 1350 A. D. From this time on until about the year of 1846 when gun cotton was discovered, black powder was the only powder known and used. The word powder is actually a misnomer as the word means fine dust. But it seems the first propellent was a mixture of ground saltpeter, charcoal and sulphur resembling black dust and the name has stuck ever since.

The average composition of black powder runs close to 75 parts saltpeter, 10 parts sulphur and 15 parts charcoal. The speed of burning of black powder is controlled to a certain degree by the grain size. Powder with large grain size burns more slowly than powder with small grain size. But if the grain size is made too fine the burning may be slowed because the spaces between the grains are filled making it difficult for the igniting flame to communicate itself rapidly throughout the charge. Small grain powder is the easiest to ignite hence its use in the priming pans of the old flintlocks.

Currently black powder is manufactured in irregular shiny black grains. The sizes are designated by the letters FG, FFG and FFFG. The more F's the finer the grain size, although there may be some variations between the powders of different companies.

Now we come to smokeless powders and it is essential to safety as well as efficiency that the reloader have a reasonable working knowledge of the properties of this component.

The discovery of nitrolglycerin in the year 1846 opened the way to new fields in explosives. This is one of the most powerful explosives known in the powder field, the basis of many of our modern compounds. Nitroglycerin contains a large amount of oxygen and its chemical ingredients are capable of transforming themselves into gases by rearrangement. A shock will start this process and once started it will spread almost instantly throughout the mass resulting in a violent explosion. Nitroglycerin by itself is of limited use due to the diffi-

culty and precautions necessary to control it. It is so sensitive that even friction might cause it to explode. The difficulty was overcome by the discovery that nitroglycerin absorbed into a porous substance made a much easier controlled explosive. One of the great industrial uses of it is made by allowing nitroglycerin to be absorbed by a porous earth known as Kieseluhr. The product of this substance is called dynamite.

The discovery of guncotton added another powerful explosive to the list, which was to play a major part in our modern smokeless powders. This is a chemical compound, not a mixture, and is formed by the action of nitric and sulphuric acids on cotton or any kind of cellulose. So we hear it referred to among powders as nitrocellulose. Guncotton in itself burns too rapidly to lend itself to use in firearms.

By mixing it with nitroglycerin, success was quickly attained. First the guncotton absorbed the nitroglycerin the same as the porous earth method of dynamite. Second the absorbing agent was in itself a powerful explosive. Various explosives were thus formed by this combination. Cordite smokeless, which is Great Britain's standby powder, is a combination of 37 parts guncotton 58 parts nitroglycerin and 5 parts vaseline. The mixture of guncotton contains insufficient oxygen to turn all of its carbon into carbon dioxide gas. Nitroglycerin has too much oxygen. By balancing the two in proportion the excess of the one balances the deficiency of the other.

The difference between black powder and smokeless guncotton or nitroglycerin is that black powder is a mixture requiring a flame to make it burn or explode, while nitroglycerin and some other smokeless powders can be burned without any explosion resulting. Dynamite can be cut up and thrown into the fire with little danger of exploding. Shock is needed to cause the chemical rearrangement from solids to gases known as detonation. This speed of detonation varies but with some explosives it runs as high as 7000 yards a second.

In making modern smokeless powders there are two methods. One consists of dissolving guncotton in a mixture of ether and alcohol which forms a mass called colloid. This has about the consistency of melted glue. This mass is squeezed out in tubes like macaroni. The tubes are cut in short lengths after which the ether and alcohol are evaporated off leaving a hard substance resembling dried glue. The modern DuPont military powders or IMR series are made by this process. They are made in the form of small cylindrical grains with a hole running through the center. This hole size controls the speed of burning of the powder and holds up the pressure of the powder gases as long as possible.

One of the difficult problems of obtaining high velocity is due to the fact that the bullet, by traveling through the bore following the explosion, decreases pressure as the space in which the gases are confined is increased in volume. To counteract this reduction of pressure the powder grains must be made to produce a uniform and sustained amount of gas from the beginning to the end of combustion. The hole in the powder grains readily facilitates even combustion. As the outside of the grain burns its surface area is reduced. The resultant loss of pressure is equalized by the *increase* in area of the *inner* surface as the hole is enlarged by combustion. The balance between these two surfaces are controlled by the ratio of inside diameter to outside diameter of the grain of powder.

Another method of controlling the burning speed and making it more progressive is by coating it with a substance that causes it to burn more slowly at first. As this coating burns off the speed of combustion is in-

creased. So progressive burning powders tend to give a more evenly distributed pressure sustained longer during bullet travel with a lower maximum pressure because this pressure can be spread out during the entire bullet travel. Also, like black powder, their burning speed is partly controlled by grain size. Powders with small grains burn faster and are better suited to short barrels while the larger grained powders are better adapted to long barrels.

Another type of important powder that the handloader will deal with is known as double base powder. In this category are powders that have a certain proportion of nitroglycerin and nitrocellulose in their composition. The modern Hercules line are all double base powders. Probably the most famous of these are Hercules Hi Vel for rifles and Bull's eye for pistols. They burn at higher temperatures then single base powders and for weight are a little more erosive. The noncorrosive primer has eliminated most of this trouble and the Hercules laboratory claims barrel life is about equal to that of guns using single base powders.

The rate of burning of such powders as DuPont IMR series and Hercules Hi Vel depends not only upon grain size but on the resistance the bullet offers to being moved. If these powders are ignited in the open air they burn slowly without any explosion. Confined the first grains burn giving off hot gases which in turn speed up the rate of burning. The more the gases are confined the hotter they become and the faster the combustion of the remaining powder.

So with a heavy or oversize bullet or a case full of powder the combustion is much more rapid than with a light bullet of proper size or a case only partly filled with powder. So we find that bullet weight and size, as well as loading density are vital factors in handloading.

With a fast burning powder and a certain type bullet it would be possible to blow up a gun with a certain charge without raising the velocity. With the same charge of slow burning powder we could not only raise the velocity as much as 300 ft. but the pressure would remain low and safe. Thus it can be seen that the handloader should know some thing about the construction and the properties of his powder not only to insure his safety but to get the utmost out of his handloads.

Some powders will burn efficiently with a large air space in the case and a light bullet. These are the powders to use for reduced loads. They must be able to burn in large cases with light charges and without the help of much bullet resistance. One popular powder of this type for years was Du Pont #80 now replaced by 4759 S R powder.

As far as the average shooter is concerned the maze of numbers and names are confusing. In the Du Pont line many powders have been changed and new numbers given. Another thing that makes it difficult is the fact that Du Pont and Hercules who supply most of our powder have discontinued giving data on loads and pressures of powders. The reason they assign for this is that due to changes in components beyond their control they are discontinuing the publishing of all loading data. By components I take it they mean mostly primers. While granting non-corrosive primers do give erratic pressures some times, variations of components from standard have done the same thing in the past before the advent of non-corrosive primers. It seems to me that a few basic loads with reduced pressures as starting points would give the average handloader a well-deserved break. In order to try to help the beginner I will give a list of current powders and the old powders they replaced to help him make a fair selection of the best

powder for his gun and the load he intends to use.

One thing to keep in mind is that all powders have what is called a working range of pressures,—pressures that will burn them effectively. This range may be long or short depending on the powder. The top is the point of critical balance above which you approach detonation and disaster. For general purposes those with wide working ranges are most useful to the average handloader. Powders used for high velocity with heavy bullets such as Du Pont 4350 are slow burning powders and have a narrow pressure range. The medium burning powders are the most useful with jacketed bullets while the quick burning powder such as 4579 is the best for lead bullets at low velocity. Best accuracy is usually achieved somewhere between the high and lows of pressure.

We will start with the Du Pont Lines. The old reliable Du Pont S R #80 was the headliner for years for reduced loads. It was used in Rifles and revolvers alike. There is still a lot of it around and loads are generally printed on the label. These should not be exceeded as pressures above a certain point are critical with this powder. It has been replaced with #4759 which cannot be used in revolvers. Du Pont IMR #4227 is a dense progressive fast burning single base powder which replaces IMR #1204 and is adapted to small capacity cases such as the Hornet etc. It can also be used for accurate reduced loads with either lead or jacketed bullets in large cases.

Du Pont IMR 4198 is similar to old IMR #25 and is fairly fast burning adapted to light bullets in full charges in cartridges like .300 Sav. and .32 Special, etc. It may be used with gas check bullets in the large military cases.

Du Pont 3031 is a single base medium burning powder which replaces IMR #17½. This is a very useful powder being very flexible and burns under a wide range of pressures. It can be used from the .220 Swift to the big bore with big diameter bullets. It gives good velocities with low pressures.

Du Pont 4320 is a dense single-base slower burning powder with a smaller working range than the 3031. It is a fine powder in the .220 Swift, .257 Roberts, etc. with full or near full charges. I have found it very accurate with high velocity and low pressures.

Du Pont 4064 is a single base powder which replaces the old #15½. It is very slow burning and has a narrow working range. It is most effective with heavy bullets in the large military class cartridges. The average handloader will have little use for it.

Du Pont IMR #4350 is a fairly new single base powder and is the slowest burning in the Du Pont series. It is the best for very heavy bullets in the large cases. Small cases will not hold enough of it to make it burn well. This is one powder that can be compressed by the bullet. It is not too critical at peak pressure and is at its best with very little air space in the case.

Du Pont pistol powder #5056 is a single base slow burning pistol powder. This replaces the old #5. It's at its best in full charges in the large caliber revolver cartridges.

Du Pont #6 is a single base pistol powder that will not handle as heavy a charge as #5 but neither does it burn well in very light charges. It has little to recommend it in view of the better powders available.

The Hercules powders are all nitroglycerin or double base powders. They are very fine and accurate. They are as follows:

Hercules Unique is a good all around powder for reduced loads with good working range. It gives high velocity in revolver cartridges with low pressures and in reduced loads in rifles.

Hercules Sharpshooter was devel-

oped in 1900 to replace black powder in all caliber cartridges. Consequently it performs best at low pressure levels.

Hercules #2400 is a comparatively new powder as Hercules goes. It possesses a very good working range. It was designed for small cases such as 25/20, Hornet, etc. It is good for mid-range loads in the .257 and .270 cal. class. Hercules Lightning is another old powder dating from 1900. It was designed for the then high velocity loads of the 7 mm class. It is good for normal loads in the old straight-sided cases like the .45/70 etc. It is a good powder for mid range loads with gas checks in the military class calibers and has a medium working range. Hercules Hi Vel has long been a favorite of handloaders. Superbly accurate in medium to top loads it burns well from 20,000 to 55,000 lbs. pressure. It can be used with lead gas checks or jacketed bullets with high velocity. One of the very best all around powders for the handloader.

Hercules Bullseye is a double base pistol powder that has been a standard for many years for uniformity and accuracy in light and standard loads. It is quite critical at its peak pressure and should not be used for high velocity loads.

There are various other powders but as they are not generally available to handloaders we will not go into them. While not complete this list should give the average handloader a fair working knowledge in the selection of his powders.

There are a few rules the beginner should always observe. All old powders with loads printed on the labels were mostly meant for the old primers. Cut all these loads 3 to 5 grains. In fact, cut all published loads the same unless the exact primer is stated.

Do not use any powder, salvaged or otherwise, unless you have the complete data on it.

Weigh all full charges and check cases for double charges.

Store powder in a dry not too hot place and it will keep for years. I am shooting some Hi Vel that is 25 years old and the accuracy is still fine.

Remember, powder is not usually dangerous to have around the place but a careless user of it *IS*.

. . . *To Be Continued*

THINGS YOU MAY NOT KNOW

The kangaroo rat is neither a kangaroo nor a rat, but is a near relative of the pocket mouse which shares his desert haunts.

——

The chimpanzee has terrific strength, equal to that of several men. In captivity, it seldom lives longer than 15 years.

——

Vultures are health-protectors in warm lands where they eat carrion, being guided to their food not by smell but by sight. Its amazing vision is an important factor in the vulture's longevity.

The chikarah, an antelope found in India and Tibet, has four horns instead of the usual two.

——

The population of a hive varies from 50,000 to as much as 80,000 bees. When the hive becomes overcrowded, the queen bee and thousands of workers leave to form a new colony.

——

The viper is the only poisonous reptile found in Britain.

——

The winter coat of the bharul, blue sheep of Tibet, is grey. The summer garb is brown.

A Challenge to Sportsmen

By Leo A. Luttringer, Jr.

"Are we in it
Well I guess
FFA—yes, yes, yes!"

YOU guessed right. It's an old school yell that probably is familiar to many of you, except for one thing—school itself. In this case the school is the Future Farmers of America, Pennsylvania's 12,000 vocational agriculture students, and they *ARE* in it. So are *WE*. The question is are *YOU?* In what, you ask? Perhaps the following quotation from the Conservation section of November Field and Stream will refresh your memory:

"A nice challenge to organized sportsmen in Pennsylvania has come out of a cooperative program involving 12,000 Future Farmers of America, sponsored by the Department of Public Instruction and the Game Commission. The boys will be given an opportunity to improve conditions for wildlife on their own farms, with special emphasis placed on woodlot management, food strips and nesting islands. The two state departments will furnish the know-how and its distribution, and have put it up to sportsmen's clubs to administer the program on the local or county level. That strikes me as an opportunity that just can't be evaded, even if the impulse to duck should be present. Furthermore, it is the sort of project that puts new life into any group." Harold Titus, Editor.

In case you have forgotten this statewide program for improving wildlife habitat on the farm let's do a quick recap on it. It was announced in the GAME NEWS, July last year and the first year's competition will close the end of this September so that the program will again become operative during the next Vocational Agriculture year which runs from October to October.

Elements of the program comprise such projects as woodlot management, wildlife in the harvest plans; winter feeding; shop work such as building feeders, rearing pens of quail, etc.; waterfowl restoration including farm pond development; fencing wildlife areas; border planting; day-old quail and pheasant chick rearing; improving fur-bearing animal habitat; controlling predators, etc.

A point system for scoring work accomplished was developed in Lawrence County through the cooperation of W. T. Patterson, Biology Teacher, Calvin A. Hooper, Jr., Game Protector and James E. Fink, Vocational Agriculture Supervisor. It was subsequently revised to more fully coincide with the statewide program and is now the official measuring stick for the undertaking.

The Game Commission has contributed $1,000 in cash to be used as awards at the state and division levels as follows:

State Level: (total $200)	
1st prize award	$125.00
2nd prize award	75.00

Field Division Level: in each of Game Commission 6 Divisions: (total prizes $750)

1st prize award	$50.00
2nd prize award	35.00
3rd prize award	25.00
4th prize award	15.00

Conservation Award: ($50)

This amount will be used as prize money for the Chapter which displays the best conservation exhibit at the State Farm Show.

The above explains OUR part (Game Commission, Public Instruction, Future Farmers) in the program. YOU (all sportsmen's organizations) were invited to participate at the local level by offering some award or awards to the boy who did the best job. These awards can be anything from merchandise to War Bonds. Only one stipulation was made, namely, that if a club furnished any materials it would be morally bound to furnish them in like quantity to *ALL* boys competing in its area, not just ONE boy.

It Is Not To Late

If you haven't gotten into the game yet or started to root from the cheering section it is not too late to start. The program has seven whole months to go. Just get in touch with the Vocational Agricultural Area Leader mentioned below who administers this program in your part of the state. Tell him you want to get behind a Future Farmer Chapter in its wildlife habitat improvement on the farm project and you will find a ready listener.

THIS THING IS BIG, really *big*, and its possibilities are *unlimited*. Our Director, Thos. D. Frye, addressed the officers and leaders of the Future Farmers in the Forum of the Educational Building in Harrisburg during Farm Show Week. He lauded them for their work and explained to them with deep sincerity that the Game Commission wanted to help them in any way that it could. In closing he asked the assembled 1,200 boys if, come fall, they would allow him to hunt if he came as one determined to respect the landowner and his property. There was one moment—a short moment—of suspense, then a thundering burst of applause that left no misunderstanding about one thing. The future protection of our wildlife and our hunting privileges rests in the hands of our sportsmen's clubs, and depends largely on how each one of us deports himself in the field. Let's not kid ourselves. Do you realize that these young men are soon going to be farming lands of their own? Do you realize what it means to the future or our wildlife heritage to have these alert, clean-cut progressive American boys on OUR side of the fence? If you don't take this opportunity to make friends with these future custodians of your wildlife you are simply selling your natural heritages down the river. What do you say?

"Are we in it
Well I guess
FFA—yes, yes, yes!"





Return That Band

By John J. S. Shrader

AN item in the September 1951 issue of the PENNSYLVANIA GAME NEWS stresses the importance of returning bands found on game birds to the Fish and Wildlife Service. The value of returning these bands cannot be overemphasized. However, everyone interested in wildlife should look for and return bands on *all* birds, both game and non-game.

In an effort to learn about migration and movements of birds, the Fish and Wildlife Service set up a special department to carry on the work of banding birds. Co-operating with the department are hundreds of volunteer banders. These banders—farmers, lawyers, housewives, teachers, students—have a common interest in birds and spend much time and effort in live trapping birds and placing bands on them.

But this is only half of the job. The other half is the recovery and return of the band. When you see a robin killed by an automobile, or a Maryland yellow-throat dead from dashing into a building at night, or a bluebird dangling from a cat's mouth, look at the legs for bands. The robin may have been banded in Louisiana, the yellow-throat in Texas and the bluebird in Kentucky. Unless the band is returned, however, this information is lost.

Almost every kind of bird has been banded. The smallest size band, No. o, is for hummingbirds, kinglets and

the like, while the largest, size 9, would be found on the turkey vulture, great horned owl and similar huge birds. The golden-eye pictured in the September issue is wearing a No. 6.

Should you find a banded live bird, *do not remove the band.* Copy the serial number carefully, exactly as it appears on the band. Here are sample numbers: A-22345; 18-664; 500-83411; 481-123456. Release the bird after writing down the number. Upon finding a band on a dead bird remove the band, flatten it, fasten it with Scotch or similar tape to your letter. The Bird Banding Office will return the band to you as a souvenir if you request it. Be sure to state when, where and how the bird was found, give the date, city, county and state. State if the bird was shot, died of unknown causes, etc. Make certain you give your name and address. Mail band and letter to:

BIRD BANDING OFFICE
Patuxent Research Refuge
U. S. Fish and Wildlife Service
Laurel, Maryland

Your letter will be acknowledged and you will be given the name of the bird and when, where and by whom it was banded.

Banding birds is not a simple process. First, some knowledge of birds is essential. Secondly, a Federal Permit is necessary and, in Pennsylvania and other states, a State Permit. The





Banding Office supplies the bands and instruction and information but the volunteer bander furnishes the traps and bait.

When a bird is banded a schedule is filled out, giving the number of the band, his permit number, the American ornithologists Union species number, the common and scientific names of the bird, and the operator's name and address. The bander also designates whether the bird was a nestling, immature or an adult. The schedules are sent to the Banding Office and filed.

Why is all this necessary? A federal Permit is necessary because it is a federal project and birds know no political boundaries. Pennsylvania grants a license as Special Agent for the Game Commission in order to support the federal program and to prevent irresponsible persons from trapping birds. In order to control the banding and keep accurate records the Banding Office issues all bands. By furnishing the traps and bait the volunteer saves the taxpayers' money and retains his independence as an individual operator. The schedule must be exact to furnish precise information. No detail is overlooked.

Returning a band completes a cycle, and only when the cycle is completed can we obtain the vital information that makes bird banding a worthwhile undertaking.

. . . *The End.*



By Horace Lytle

Dear Son:

A couple of letters ago I wrote reminding you of your first trip to the unspoiled Canadian Wilderness, when you were but nine years old. I note I overlooked mentioning how it came about that you made this great adventure when so young as you were. For some time I had been telling you of Canada, and of canoeing, and kept promising—somewhat indefinitely—that a day would come when I'd take you. You were always eagerly fascinated; and one night you suddenly wanted to know—

"*When* am I going?"

Not prepared for this bombshell, I made a hasty calculation and ventured: "Oh, perhaps in about seven years."

"Seven *years!*" you cried. "Why that's as long as I am old!" And real honest-to-goodness big tears poured forth as you sobbed: "I can't wait *seven years!*"

So that's how come we speeded up the time and cut five years from my hasty computation. Anyhow, you were twelve when you and I went together again—just the two of us this time, as your mother stayed home, The year before I had been invited to go with Carl Loy to his island in McGregor Bay; and you had gone to Timagami with the Ewings. The next year Carl wasn't going and I asked him if you and I might use his cabin—to which he kindly consented.

We went by train to Toronto and on to Owen Sound, where we took the steamer Manitou on that wonderful ride up through the beautiful waters of Georgian Bay, arriving the following afternon at Little Current, where we had made plans for outfitting.

The morning we pulled out from Little Current, an aged gentleman was fishing with an old-fashioned bamboo pole. He looked us over carefully, and then: "You don't be goin' to start out in that fool little thing,

be ye?" When I assured him that such was our every intention he muttered to himself a bit, and said: "I'm an old man from the States; I fit fer Abe Lincoln durin' the Civil War. But they's two things I never see in all my life 'fore today—an' I'm seein' one of 'em now."

I asked him what were the two things he had never seen before, and he replied: "One of 'em's a brindle hound."

"What's the other?" I asked.

"The other's a *bald headed fool!*"

The old gentleman then turned to you and said: "Sonny, if yer dad be sure 'nough goin' to take ye out 'n that little thing, jest set still in the middle an' keep the tobaccy right square in the center of yer mouth. Don't never even turn to spit."

Grant Turner, at whose store we outfitted, had made for us a hand drawn map, giving information on a short cut across Big LaCloche Island, through an inland body of water named Lewis Lake. He indicated roughly the spot opposite the lake where we should look for the portage. Soon after paddling away from Little Current, we came to a stretch of open water that it seemed foolish to attempt to cross until the wind died down, and we were finally forced to land. It was just about lunch time, so we had a bite of crackers, cheese and tea.

Then we decided that we might do a little exploring on foot to try to find Lewis Lake. We tramped the better part of the afternoon and it seemed as though our efforts would never be rewarded. As we rounded one little clump of bushes, we came suddenly face to face with our first deer—and the little doe, bounding away through the bush, gave us quite a thrill. We were about to give up our quest, and paddle the longer way around, following the shore lines of the open water—when suddenly through a slight vista in the trees we discovered what we felt must be Lewis Lake. Do you remember?

We located a camping spot for the night, picked out what seemed to be the portage, and then went back to where we had landed, making three long return trips, each carrying as much as we could of the outfit needed for the first night's camp. We carried a good bit besides our tent, packs, food and blankets, for we realized that everything we got portaged that day would mean just so much less for the next. Making the canoe secure on shore, we left with a determination to be up next morning at sunrise and go back for it before breakfast while the open water would still be calm.

Lewis Lake, one of seventeen lakes on Big LaCloche Island, did not offer the annoyance from wind that we had experienced in the open water the day before, and we made good progress the better part of the day. Toward the middle of the afternoon, however, the wind began to blow quite wickedly. We came to two great rock formations and landed on the larger of them to wait for the wind to die down. These rocks were very close together and the space between them made a fairly good harbor for the canoe. The entire surface was not larger than a small room, but there was one lone pine tree growing in a crevice.

When we finally left our roost on the rocks it was getting well along in the day. We had little farther to go, however, to reach what appeared to be the end of the lake. We were in virgin country where we had never set foot before, and our only guide was the rough drawing that Mr. Turner had made for us on the back of on old envelope. We could not be sure that this was positively the far end of Lewis Lake, but it had every appearance of being, so I got out to look for a portage. We landed and investigated four times before finally we found the portage we were seeking, a tiny hidden trail.

I've always taught you in the woods to get a bad job behind you, so we made the portage out of Lewis Lake that same evening, before satisfying our hunger. We accordingly carried the canoe and all the duffel over to the new water, which was an offshoot from White Fish Bay. You pitched camp while I cooked supper.

Next morning we packed up promptly after breakfast to leave early. We were paddling along, drinking in the unspeakable splendor of the wilderness, when suddenly we noticed signs of rain in the sky. We had scarcely rounded Dreamer's Rock when rain came upon us. It gradually increased to a real rain in every sense of the word. We kept right on. There was nothing else to do. Remember?

A stretch of water lies betweeen the most eastern point of Little La-Cloche Island and the narrow strip of mountains that separates McGregor Bay from Bay Fin. When the wind is from the south, it has a play of about thirty miles over open water, which invariably makes this crossing pretty heavy going for any small craft. The extreme point between McGregor Bay and Bay Fin is called Quartz Rock. It seemed as though we would never make that distance of three miles. There were long spells when we did not appear even to be holding our own.

I had not intended to attempt the Quartz Rock Crossing with you—but when we rounded the bend it was calm, and we decided to paddle straight across and save ourselves several miles. It rained harder every minute. When we finally reached the point at Quartz Rock, we got out, crawled up the steep bank and crept under a windfall. It was a tight squeeze for two of us, and it was far from easy to keep from sliding down the slippery sides of the mountain. But we managed to nibble away at some crackers and cheese, as we were hungry. Suddenly the moss gave way beneath me and I went shooting straight down into the waters of McGregor Bay!

This episode had one advantage. It determined our course of action We gave up further ideas of protection from the rain and decided to keep right on paddling. It was between eight and ten miles down the shore line to Carl's cabin, where we expected to make our home for a month. That trip through the storm was an experience I hope you may always remember. I never expect to hear louder thunder nor see lightning more wicked. Our drenching defied anything further in the way of wetting.

It was getting late when we finally reached Carl Loy's island, but it seemed good to be there, even though the cabin had not been occupied for some time and was pretty forlorn. Just as we were getting ready to give our bedraggled attention to something to eat, Art Kitchen came paddling over with a kettle of hot soup. Art was a friend of mine from the previous summer and had seen us coming in. It is just such thoughtful little uncalculating courtesies that make the hospitality of the North Country so real and sincere. But you have long since learned that yourself.

Evening in the woods of the North is the time when one feels the deepest responsiveness to the appeal of the wild places. Always in that country one should start out after supper in the evenings and browse around in the canoe along the shadowy shore lines until bedtime. On clear nights it stays light enough to distinguish objects satisfactorily until nine or ten o'clock. There are always plenty of interesting things to see—mink, and many other kinds of small game, as well as eagles, ducks and other fowl of the air. Most fascinating of all, are the deer. It was a never-ceasing source of thrill to you to work in close to them especially during our evening excursions in the canoe. We

would spot one in the distance and you would pull in your paddle and sit very quietly while I handled the canoe alone in slipping up on the little beauty of the woods, never lifting the paddle from the water.

The next morning after our arrival at Carl's cabin you caught your first fish, getting up early to do so. That is the best bass country I've ever known, but you just took a fly rod and fished from the dock. In short order you landed a pickerel—small, but it would make good eating. And were you proud when I cleaned it right away to cook for our breakfast! Do you remember what happened? In trying to get the hot skillet from the fire to the table I *dropped it* and your fish splattered all over a great rock. But rocks in that north country are clean, so I carefully scraped up all the pieces and we ate your fish just the same. You loved it—and I did too.

One night, paddling late as we always did, we suddenly and silently rounded a bend to surprise an eagle sitting on a low limb at the water's edge. Do you remember the noise of its wings as the giant bird fanned the air getting away from there? I have never forgotten the swishing sound of those great wings, nor the remarkable distance from which we could still hear it. I hope you haven't, either. We were closer to that eagle than most people ever get. Remember such things when they occur to you in the great outdoors. They'll be the memories you'll feed and feast on in years to come. They can be life's greatest treasures.

Those evening excursions in the canoe gave us glimpses of much of nature in the wild. We'd see mink, otter, now and then a beaver—but most of all the deer. Once I wormed the canoe so close to one, feeding, that we caught it utterly by surprise—and had that buck jumped toward us, we could have gotten a good wetting, or worse. Of course he didn't, though—his flight was away from there. We made no sound, except that, as soon as he was hidden by the bush, I whistled. That stopped him; it always will. Then, when that one whistle was followed by nothing but silence, he snorted. This was his way of trying to draw a repeat so he might figure it out. So once more I whistled—then more silence. And the buck snorted again. You were fascinated. Do you remember?

Well, perhaps this is enough for tonight. I'll continue in my next letter—which will be soon.

Lovingly,
DAD

MAKING LAND PRODUCE USEFUL WILDLIFE

The Soil Conservation Service has recently released a splendid booklet for the farmer, sportsman or landowner who desires more game or a better balance of wildlife on his property. The author discusses wildlife's food and cover requirements, then explains how these requirements can be met by the use of hedgerows, multiflora rose fences, shelter belts, etc., and by the development of odd areas such as eroded gullies, fence corners, and stream banks. Surprising as it may seem, this bulletin can show you how to achieve a balance of wildlife on the farm that will benefit the landowner economically as well as esthetically.

To secure this booklet send 25 cents to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., and ask for Farmers' Bulletin No. 2035, "Making Land Produce Useful Wildlife."



NATIONAL WILDLIFE WEEK OBSERVED IN MARCH

Plans for the 1952 observance of National Wildlife Week and the next annual convention of the National Wildlife Federation were perfected at the meeting of the Federation's executive committee in Washington, January 26-27, the Wildlife Management Institute reports. The committee also considered expansion of the scholarship program. Using money derived from the distribution of Wildlife conservation stamps, the Federation has established several college fellowships and scholarships for the training of wildlife technicians and educators.

National Wildlife Week, sponsored annually by the Federation since President Franklin D. Roosevelt proclaimed the first such observance in 1938, will be held March 16-22. The nearly extinct Key deer of Florida has been selected as the 1952 symbol of dwindling natural resources which may yet be saved or restored. Ed Dodd of Atlanta, Georgia, comic-strip artist and nationally-known conservationist, accepted the chairmenship of Wildlife Week activities. The Federations convention will be held March 19-21 at Miami, Florida, immediately following the 17th North American Wildlife Conference. Delegations representing 42 states, federations, or conservation leagues will attend.

MIAMI TO BE AMERICA'S CONSERVATION CAPITAL

For a few days in March, Miami will become the conservation capital of North America when the 17th North American Wildlife Conference convenes in the municipal auditorium on March 17, 18, and 19. Approximately 1,500 fish and game administrators, foresters, biologists, sportsmen, and representatives of conservation agencies from all states, Canada, Mexico, and Alaska will begin to converge on Miami after the first week in March to attend the conference sessions and related conservation meetings.

Sponsored by the Wildlife Management Institute, the North American Wildlife Conference is held annually to discuss problems and progress in the field of natural resource management and restoration. All phrases of the continental water, soil, forest, and wildlife conservation program will be discussed under the general theme: "Natural Resources-Your Security" by nationally recognized experts in nine meetings during the three-day program. There will be three general sessions devoted to the broad aspects of the conservation picture and six technical sessions, two concurrently each day, at which specific programs will be aired.

MISSOURIANS TAKE INITIATIVE IN GAME RESTORATION

A group of impatient sportsmen known as the South Side Division, Saint Louis Chapter of the Conservation Federation of Missouri, just couldn't wait for public agencies to provide them with better sporting facilities. As a result of this impetuous decision, the club now can boast what is probably the best private project of its kind in America, the Wildlife Management Institute reports.

In 1946, the club bought a run-down, farmed-out, down-at-the-heels piece of the Show Me state which consisted chiefly of 200 acres of gullied fields, burned-over woodlands, and a small meandering creek which threaded its way stubbornly through silt that threatened to choke it. With little more than a dream and $8,000 loaned by some of its own members, the group rolled up its collective sleeves and went to work. A dam was thrown across the creek by one group while another worked to clear the reservoir site. Others attacked the old farm buildings and fences, painting, patching and repairing. Multiflora rose was planted inside fence lines, and the seedy woodlands were bolstered by plantings of pine, walnut, cedar, catalpa, and ash. Two boat docks were constructed; upland areas were terraced, fertilized, and planted to legumes. As these activities were translated into food and cover, game began increasing. In 1948 thirty-eight quail were tallied on the area by Missouri Conservation Commission technicians who advised the group. Last December, another survey disclosed a population of 196 bobwhite, nearly a bird per acre and five times the original number, in spite of the fact that the latter count was made a month after an 18-inch snowfall. Deer have begun to use the woods; seven recently were seen there on one day. Squirrels, for which nest boxes have been erected, and cottontails are abundant.

No general hunting will be permitted, according to President G. Edward Budde until game populations have been built to carrying capacity. Fishing, however, is permitted by members and their guests. For the present the Tea Lake refuge and recreational area remains a tribute to a far-thinking group of sportsmen and an outstanding example of what organized sportsmen using modern wildlife management knowhow can accomplish with inspired leadership and a bit of old-fashioned initiative.

FIGHT AGAINST RABIES BEGUN

A campaign to minimize animal rabies was launched today by the Commonwealth as a public health measure.

The campaign will be pressed especially hard in northeastern and southeastern Pennsylvania, where the incidence of rabies "constitutes a serious menace to the health of the people," according to Governor Fine.

The State Health and Agriculture Departments plus the Game Commission were ordered by Fine to cooperate in the drive to reduce rabies.

Health Secretary Russell E. Teague told Fine that 18 persons were bitten by animals suspected of having rabies during the last half of 1951. Between 1949 and 1951, the known cases of rabid animals in the state jumped from 31 to 241.

"So far as is known, all cases of rabies once contracted terminate fatally," Teague reported to Fine. "The so-called Pasteur treatment, a course of anti-rabic vaccine, is effective in preventing rabies. This treatment is used when there is definite evidence of exposure to rabies as a result of a bite from a rabid animal. Experience has shown that treatment is not without danger and in rare cases has proved fatal."

Game Commission Director Thomas D. Frye said foxes are especially responsible for spreading rabies. The Commission's field employes will use dead crows saturated with a fast-action poison to exterminate rabid foxes.

Agriculture Secretary Miles Horst said 20 to 37 cases of rabies reported this year were found in foxes.

ACTOR FORMER COMMISSION EMPLOYEE

It might be of interest of GAME NEWS readers to know that Don Keefer, talented young actor of the stage, motion pictures, radio and television is a former Pennsylvania Game Commission employe. Before attending the American Academy of Dramatic Arts in New York Don held a position in what was then known as the Division of Education.

In the current motion picture, "Death of a Salesman," Keefer plays the prominent part of a young attorney, the same role he played in the Broadway version of that drama. He has recently completed another picture "Woman in White," for M.G.M., and is now rehearsing for a part with Paul Lucas in "Flight Into Egypt."

SPARE THAT TREE

Robert Parlaman, Conservation Education Assistant of the Southwest Division, tells us that a lot of folks expected the Game Commission to play Santa Claus last Christmas, even to the extent of furnishing them with Christmas trees. In relating the story of their disillusionment Bob says:

"District Game Protector Ray E. Doerzbacher, Washington, who is responsible for the State Game Lands 117 in Washington County was much disturbed over the wholesale illegal cutting of evergreen trees to be used for Christmas trees prior to Christmas 1950. The trees on these Game Lands number many thousands and are becoming increasingly valuable for the purpose for which they were planted some years ago—wildlife habitat improvement. With the aid of his able deputies, he made a concentrated effort to stamp out, this practice during the 1951 pre-Christmas season.

"In reporting his activities for this period, Doerzbacher's box score read, "29-Prevented, 7-S, 5-Pros." His interpretation of this box score was as follows: Twenty-nine persons were apprehended as they hunted for the tree that they felt suited their needs and they were warned that fulfilling their intentions made them subject to a heavy penalty. Seven trees were cut and stolen by the guilty parties without apprehension. Five individuals paid the penalty of $25.00 for each tree cut. The presence of the Officers in a Game Commission truck no doubt discouraged many more, Doerzbacher stated.

"Some investigations and the checking of individuals on the area proved humorous, some downright serious. One man stated when accosted with a saw and axe in his hand that he 'just found the tools, he was looking for his dog', another man accompanied by his wife, gave the saw to his better half to hide under her long coat. She became quite provoked at her husband and threw the saw at him. A father and son argued quite loudly about which tree would make the best to cut, the officers standing nearby prevented this. Both would-be offenders were rather put out when the officers made known their identity. The son asked the father if this is where he secured the tree they had last year!!

"Prospectors came from within a hundred mile radius of the lands. One individual apprehended with a cut tree came from West Virginia. He stated that someone told him the trees were his for the taking, even though he parked his car within ten feet of a large sign stating the trees were property of the Commonwealth and that there was a penalty for cutting. One group of three men came prepared to go into the business of Christmas tree selling. They were equipped with a power saw and a large truck to do the hauling to the nearby metropolitan area of Pittsburgh. Their excuse was that they intended to find out who owned them, then offer to buy them, but further questioning revealed that they lived nearby and passed the area every day enroute to work. Two other men were apprehended and paid the penalty as they came back at night for the trees they had cut and hidden during the day. The tracks in the fresh snow eliminated the excuse that they had found them along the road, in fact that fresh snow aided the officers to no end.

"As I see it, the moral of the story is that it is much cheaper to buy your tree than to play the role of our forefathers."

New Laws

Prior to the opening of the 1951 small game season GAME NEWS carried a resume of all new state laws passed by legislature prior to that time which were of interest to the hunters of the Commonwealth. As the legislature convened on December 22, 1951, and the Governor has acted upon all bills sent to him, GAMES NEWS can now bring the reader up to date with the following complete digest of all new laws of this nature:

S. 237—Regulating Transportation of Parts of Big Game. Act No. 24, approved April 12th, effective September 1, 1951, amends Section 714 of the Game Law, by providing that any individual may possess, transport, carry or convey an unmarked part of a big game carcass that has been cut up, but such person shall upon request of any law enforcement officer furnish the name and address of the person killing the big game animal and any other information required to properly establish legal possession in such person.

S. 394—Possession of Unloaded Firearms in Cars. Act No. 49, approved May 10, 1951, effective immediately, amends Section 806 of the Game Law by permitting uncased and unwrapped guns and loose ammunition in vehicles at any time, provided the guns are unloaded.

S. 425—Regulated Shooting Grounds. Act No. 169, approved June 28, 1951, effective immediately, amends Section 411 of the Game Law concerning shooting regulations on regulated shooting grounds by extending the seasons for certain classes of Regulated Shooting Grounds. Under the new law, in areas where wild ringneck pheasants and bobwhite quail of the sub-species approved by the Commission do not thrive and normally produce a shootable supply of these birds or on those grounds which are commercially operated and are open to public use, the season for ringneck pheasants, bobwhite quail, chukar partridges, and mallard or black ducks more than two generations removed from the wild shall be fixed by the Commission without regard to the general state-wide open season for small game, thus leaving the seasons entirely at the discretion of the Commission.

On all other regulated shooting grounds of the State the season for such domestically produced ringneck pheasants, bobwhite quail of the sub-species approved by the Commission, chukar partridges and mallard or black ducks more than two generations removed from the wild, shall begin on the opening day of the season for such game birds as fixed by law or by Commission regulations, and continue through the last day of February.

Mallard or black ducks less than two generations removed from the wild may be taken on all regulated shooting grounds only in accordance with the season established for waterfowl hunting by Federal regulations in effect for the Commonwealth of Pennsylvania.

S. 426—Retriever Trials. Act No. 139, approved June 12, 1951, effective immediately amends Section 721 of the Game Law by providing that the period of Retriever Trials shall be from the first day of October to the 31st day of March, in lieu of the present provision of the Game Law, which is from October 15 to December 31.

S. 479—Exclusive Deer Season for Archers. Act No. 171, approved June 28, 1951, effective September 1, 1951, adds subsection (e) to Section 501 of the Game Law by providing that in each year in which there is an open season for hunting deer there shall in addition be an open season for hunting deer with bows and arrows exclusively, unless otherwise declared by resolution of the Commission. The Commission is authorized to fix the duration of the season and sex of deer to be killed. A special license obtainable at Pennsylvania Department of Revenue, Harrisburg, Pa., for $2.00 is required. (A resident or non-resident hunting license is required to obtain the special license. Application forms are available at Department of Revenue, Harrisburg and License Issuing Agents throughout Pennsylvania.)

S. 885—Removal of Protection on Raccoons. Act No. 564, approved January 14, 1952, effective immediately, amends subsection (b) of Section 501 of The Game Law by adding the following:

"After investigation or upon information otherwise obtained by the Department of Agriculture as to any county being infested with rabies the commission shall upon notice given by said department remove all protection on raccoons in such infested counties or declare an open season on such animals or direct the killing and disposition of same in such manner as the case may require."

HR. 45—Prohibiting Shooting, Hunting, etc. Within Cemeteries and Burial Grounds. Act No. 173, approved June 28, 1951, effective September 1, 1951, adds section 808.1 to the Game Law. While hunting and shooting is prohibited in those areas game protectors or agents may capture, kill or remove game or vermin when requested or authorized by cemetery authorities, and firearms may be discharged in memorial or honorary services. Penalty $10.00 for first offense and $25.00 for each subsequent offense, and costs.

HR. 484—Legalizing Semi-Automatic Shotguns for Certain Purposes. Act No. 54, approved May 10, 1951, effective September 1, 1951, amends Section 704 of the Game Law, by permitting the use of semi-automatic shotguns for the hunting and killing of small game, predators and unprotected birds.

HR. 535—Possession of Game. Act No. 151, approved June 28, 1951, effective September 1, 1951, amends Section 701 of the Game Law by permitting the possession of game lawfully killed during the open season up to and including July 1st of the year immediately following; eliminates $1.00 permits for possession after sixty days; also permits possession of live raccoons when taken in season without previously required permit.

HR. 730—Antlerless Deer Season. Act No. 249, approved July 19, 1951, effective immediately, eliminates the right of licensees and certain residents of the respective counties to abrogate an antlerless deer season declared by the Commission. It requires the Commission to decide the number of antlerless deer hunting licenses to be issued in each county at $1.10 each. Such licenses may be issued to holders of non-resident and resident hunting licenses; provided, however, that no licenses shall be issued to non-residents except during a period of 30 days immediately preceding the opening date of the season. Sixty per-cent of the licenses will be issued by the County Treasurer of the County in which such licenses are to be used, while the remaining forty percent will be issued by Department of Revenue.

S. 925—Antlerless Deer Licenses and Tags. Act No. 566, approved January 14, 1952, effective immediately, *amends Act No. 249, cited in the preceding item,* by increasing the license fee from $1.10 to $1.15 and by providing that such licenses and tags shall be issued *solely* by the County Treasurers in Counties where such deer may be hunted and killed.

HR. 931—Dog Training Period. Act No. 230, approved July 19, 1951, effective September 1, 1951, amends Section 719 of The Game Law by changing the opening of the period from August 20th to August 1st.

HR. 1173—Permitting Disabled Veterans to Hunt From Automobiles. Act No. 324, approved August 24, effective immediately, amends Section 401 of, and adds Section 418.1 to the Game Law. The new act authorizes the Game Commission to issue special permits to disabled veterans having hunting licenses, who served in the active military or naval forces of the U. S. and who are suffering from paraplegia and have permanent paralysis of both legs and lower parts of the body, or who are suffering from hemiplegia and have permanent paralysis of one leg and one arm or either side of the body, resulting from traumatic injury to the spinal cord or brain, or who have suffered amputation of both feet or one hand and one foot, sustained through enemy action or accident while in such active military or naval service, permitting them to hunt under Commission regulations from automobiles.



No Place Like Home

Dear Sir:

I have been a lifetime resident of Pennsylvania but am now in business in one of our southern states. I am writing you in respect to the absence of game here. I have been down here three months and have not seen one rabbit, pheasant or deer.

The hunters of Pennsylvania can be thankful there are too many deer. I have never approved of doe seasons, but we must have had mighty good game management to have the splendid herd of deer that roams the mountains of Pennsylvania. They hunt what few deer there are here with shotguns and dogs in deep swamps that are infested with rattlers, copperheads, cotton mouths, etc.

Any hunter that knocks the Game Commission should try hunting in other states that have practically nothing at all to hunt.

Sincerely,
EUGENE PHILLIPS.

Vandalism and Posted Land

Dear Sir:

I found the special issue in September, of the GAME NEWS, to be a most fascinating magazine—exceptionally well thought out and well executed. As a country dweller I was also struck with the sensible approach of your writers who cautioned hunters to get on good terms with the farmers. I do not like to put up "No Trespass" signs any more than anyone else does. But the stupidity of some of the people who carry hunting licenses is enough for me to want to put up electrified barbed wire, signs, and everything else I can think of.

What sets me off is a train of events which ended yesterday when a presumably licensed hunter came along early on opening day of the duck season, shot our two black Muscovy hens off the water near our house, and departed before we could get his license number. I suppose it is too much to suggest that when a citizen of the state pays for a license to hunt he should be able to distinguish between a tame duck and a wild duck, or between a doe and a heifer, or between a hen and a cock pheasant. But I wonder—is it really too much to expect? To get a driver's license one must be able to distinguish between a red light and a green light between a stop sign and a go sign, and between many other things. The fact that a prospective driver can pay his dollar does not entitle him to drive. By the same token, is it right for someone to hunt if he believes that anything that moves is fair game? I do not think so.

I believe that the State Game Commission can do a fine work if it will, through its GAME NEWS and other media, indicate some of the things which are fair game for hunters and other things which are not fair game for hunters. It is obvious that a farmer who has his livestock shot out from under his eyes on opening day is not going to be very co-operative with people carrying shotguns. The Commission's campaign for intelligent hunting is a fine thing. I hope that before long it may show results other than the annihilation of the possessions which I have been feeding this year and

which I hardly intended to be blasted off the water in front of my house.

A hunter is not a qualified member of society if his only qualification is the ability to hit what he is shooting at.

Very truly yours,
ROBERT U. JAMESON,
Phoenixville, Pa.

Objects to Early Training Season

Dear Sir:

This letter has to do with the conservation of game in Pennsylvania by shortening the dog training season. It is prompted by my own experience and that of many of my neighbors.

Recently when I purchased my hunting license, I was handed the Commission's Brochure of Information which contains the following on page 3: *"Dog Training Season.* The dog training season is August 20 to March 31. Sundays included. Under new law training period for following year begins August 1, 1952 . . . ."

My experience with this early dog training season is as follows: We have two young rabbit hounds. Last year we started training them on August 20th. For two evenings they each killed a young rabbit about one-third grown. We immediately penned them up until the latter part of September when their training was continued without further loss of rabbits.

This year, I kept a close watch on the growth of the rabbits on my property and was convinced that to have started exercising the dogs at the beginning of the training season, August 20, would have repeated last year's experience and resulted in a serious loss of rabbits hereabouts. This has been the experience of many of my friends and neighbors with whom I have dicussed the matter.

And, now, this training season is to be opened August 1 next year, worsening a situation that, in my opinion, should have been corrected by delaying the training season rather than advancing it. When I purchased my seventeen acres here at Strodes Mills four years ago, I tore down the trespass notices and allowed hunting. Thus far I have no reason to regret that. I restock our place with rabbits each year in December or January.

If, however, anybody insists on his right to train his dog on my property at a time when I know for a certainty that it will seriously curtail the rabbit crop, I shall be forced to post my property. This I don't want to do as I am fond of hunting and can now share, in a small way, this pleasure with others.

I was born and raised in Huntingdon County, Pa., and have always hunted. At the close of my naval service, I secured a summer home here in Mifflin County. I have always admired the Pennsylvania game setup and while on the advisory council of the Governor of Virginia, I strongly urged their patterning their reorganization after the Pennsylvania system.

The friendly relations so assiduously built up by the Commission between the farmer and the sportsman, will in my opinion, certainly not be improved and may be jeopardized by this backward step.

I urgently recommend therefore that whatever considerations led to this action be reviewed by the Commission and that the matter be corrected by having the dog training season open September 20th instead of August 1st.

Respectfully,
P. T. WRIGHT,
Lewistown, Pa.

(Editor's Note—For many years the Game Commission had objected to this extension of the Dog training season and did not sponsor this new law.)

From Our Xmas Mail Bag

Dear Sir:

Just a few lines from a Pennsylvania hunter to thank all of you gentlemen for a job well done. I appreciate the valuable time you have devoted to the betterment of my sport. I feel you have spent my money wisely. But I am sure that the only reward you will receive will be in Heaven so pending that time—a Merry Christmas and a Happy New Year.

Sincerely,
"A SPORTSMAN,"
Williamsport, Pa.

HOW TO BUILD A FARM POND

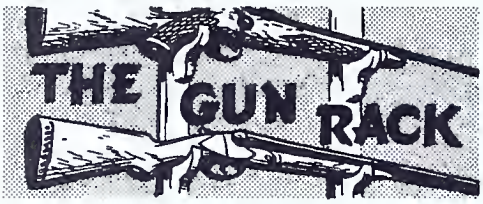
Farmers or sportsmen who plan to construct a farm pond will find complete instructions in a publication issued by the U. S. Department of Agriculture entitled HOW TO BUILD A FARM POND. All phases of the job are discussed—investigating the site, testing the soil, planning the spillway, making the fill, maintaining the pond, etc.

This literature may be secured by sending five cents to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., and requesting a copy of Leaflet No. 259, "How To Build A Farm Pond."



Photo Courtesy Erie Dispatch

It took some good shooting on the part of Carmen Caruso, right, to down this beautiful five point albino buck. Five shots with his Krag didn't stop him, but the fifth one (behind the ear) did. Carmen and his friend, LeRoy Smith live in Erie and hunt in Forest County.



The Old Krag is Still Good

By Ed Shearer

IN this year of 1952 A. D. the horizon looks anything but bright for the shooting clan, unless you are in the army. In that case you are liable to have more guns and ammunition including targets handed you than you can comfortably handle. For the plain garden variety of civilian shooter some close figuring on making things do seems to be in order.

The good or rather the bad word that drifts down from the arms companies is more drastic cuts in production for civilian use and a substantial increase in prices. Translated into dollars and cents this means our better grade standard factory rifles will set you back about the same money as custom rifles, while most any factory musket will leave you little change out of a century note. The fodder for the above will take on an equally dark complexion.

Now let us take the case of the average hunter who has fond ideas of discarding the old blunderbus and getting him a real riflegun next year. Not being in the mink coat class, Mr. Average Guy will find that one of the most fruitful places to look is among what our bewhiskered Uncle, through his ordinance boards is pleased to call obsolete military weapons. It is well here to warn all and sundry that the term obsolete is like a womans smile, it might mean anything or nothing. The .30/30 is over a half century old and is still leading the cash sales in the same old action it started out with as a pup.

One of the best of these obsolete military rifles for use under Eastern conditions is the old Krag-Jorgenson cal. .30 rifle. There are several factors that make it a very popular choice today.

First, is the excellence of the cartridge it is chambered for; it is very accurate.

Second, with the single exception of the .30-06 there is a greater variety of loads available to the reloader than any other caliber made in this country or abroad—bar none. It has killed everything from mice to elephant. Don't forget, it's the cartridge that makes the rifle every time.

Third, It lends itself to an endless variety of sporter conversions at prices ranging from a hammer, chisel and a hack saw to a super job by a custom gunsmith.

I still remember with regret a Krag sporter with a beautiful Italian walnut stock, a 22 inch barrel and a Lyman receiver rear sight. It was a finely balanced fast handling rifle with no criticism on the accuracy score. No matter what the company, it never looked like the poor country cousin. In a moment of temporary abberation a friend talked me out of it or it would still be a prized feature of my gun rack.

The story of the Krag shows that it played a large part in the development of modern arms and ammunition as we know them today. It seems a paradox that this country which produced the first successful and practical repeating rifle using brass center fire cartridges should be the last of the larger nations to adopt the magazine rifle using smokeless powder.

France was the first to see the vast military possibilities of the magazine rifle. They adopted the Lebel maga-

zine rifle caliber 8 M/M in 1886. Then followed Japan in 1887; Great Britain, Germany and Austria did likewise in 1888. Then came Denmark, Belgium and Switzerland in the year of 1889, Turkey in 1890, with Italy and Russia in 1891.

This put it up to our Ordinance Board to do something about it. Up to this time our troops were still armed with the obsolete single-shot Springfield shooting the old .45/70 black powder cartridge.



Finally in the year of 1892 after exhaustive tests the Ordinance Board adopted a modification of the Danish Krag-Jorgenson rifle. This was officially designated as the U. S. Magazine Rifle model 1892, caliber .30. This rifle was generally referred to by the military and most hunters as the Krag .30/40. partly due to the fact that the rifle bore was .30 inch in diameter and the powder charge ran about 40 grains. The ball cartridge adopted for the Krag at that time used a 220 grain round nosed bullet of .308 inch diameter. Although numerous metals were tried the bullet adopted was a cupro-nickel jacket over a lead core. The service bullet remained the same in weight and shape although various methods were experienced with in canneluring jacket and core formulas. The muzzle velocity at that time was 2200 ft. per sec.

The proper name for this cartridge is .30 U. S. Army. This is one of the three cartridges that the average hunter as well as western fiction writer and newspaper editors to this day have not succeeded in being able to differentiate in their minds. They seem to put the .30 Army, the .30 U. S. Government (which is the .30-06 Springfield) and the time honored .30/30 (which is the .30 W.C.F.) into the same pot and whichever one they draw out should be the right one.

I have seen some amusing as well as some semi-serious situations in connection with these three cartridges. One chap came to camp with a borrowed Springfield Sporter. Next morning as we were getting ready to open the deer season he learned the hard way that the .30 Army would not work in the Springfield. I happened to have an extra gun along and that chap killed a nice buck in the first 30 minutes of hunting and never saw a deer the rest of his stay.

Another chap arrived in camp the day before season with a Winchester 95 model .30 Army, forgetting to bring his cartridges. He sent into town for a box of .30/30 Springfields. The perplexed clerk asked the chap whether the gun was a lever or bolt action. The errand boy replied that it was a lever action. "Hmmm mused the clerk, must be a .30/30. At 11 P.M. 20 miles in the woods the night before season the absent minded hunter received a nice box of .30/30 Winchester cartridges. He was fit to be tied. These things still happen.

The Krag Jorgenson rifle was issued to the troops in two versions. One was the long barrel rifle for the infantry and a carbine for the mounted forces. During the years of its use by the armed forces slight changes were made resulting in models '95, '96, '98 and '99. Consequently Krag stocks do not always interchange.

The old Krag is a very fine action

within its pressure limits, which it should be clearly understood is in the lever action class. These rifles were made long before the days of modern heat treating and all receivers were case hardened. Loading this action over 43,000 pounds pressure is asking for serious trouble. The Krag is a good reliable action and safe with any reasonable loads. It also has the smoothest operating action of any bolt action made to date.

This action is fast to reload and can be reloaded with the gun ready to fire which is a desirable feature in any hunting rifle. The magazine holds four cartridges and if a little care is exercised to see that the rim of each cartridge in the magazine rests ahead of the rim of the cartridge under it, the feed supply cannot be jammed. Pointed bullets may give trouble unless the magazine throat is relieved to prevent their catching on the shoulder.

Due to the design of the receiver bridge and the operations of removing the bolt, low, permanent mounting of a scope is not very practical. However, a scope can be mounted very satisfactorily in a detachable mount.

The .30/40 is an exceptionally good cartridge to reload. The cases are made of good weight brass and have long firing life. About the only sizing necessary with normal loads is neck sizing. The rimmed cartridge eliminates a lot of headspace troubles encountered with the rimless cartridges. There is a wide range of reloads with bullet weights ranging from 80 to 220 grains, suited for most any purpose.

There are a few things to keep in mind in reloading for the Krag. The original Krag cartridge used a long round nosed bullet. Thus all Krag barrels have a some what elongated throat to accommodate this type bullet. Pointed bullets are not at their best in this type chambering. So if you use pointed bullets in a Krag seat them as far out of the case neck as possible. They will probably not work through the magazine but are O. K. for single shot work. Krag barrels will run any where from .306 to .3125 inches in diameter. The majority will go around .309 so it is wise to slug your barrel and choose your bullet accordingly.

At the present time there are two commercial loads. The 180 grain pointed produces 2470 ft. per sec. muzzle velocity. This is a pretty snappy load that gives a 3.5 inch mid-range trajectory at 200 yards, which is not so bad. The other is the 220 grain round nosed bullet at 2200 ft. per sec. muzzle velocity, with a mid-range trajectory of 4.4 inches which is my choice. I have killed three deer and have seen about ten killed with this load. For shoulder or raking shots, it's meat in the pot. It's not so good on side shots that are hit too far back.

Recently I looked over one of the finest Krag Sporters that I have seen to date. It was turned out by that expert gun stocker and parts maker, L. E. (Bud) Straub of Mill Hall, Pa. It had a Mannlicher style stock with a real pistol grip and a cheek piece that does what cheek pieces are supposed to do. The barrel was 20 inches long with ramp front sight and micrometer receiver rear sight. The magazine was remodeled nearly flush with the receiver and still held four cartridges. It weighed a trifle over 7 pounds and handled like a fine shotgun. The stock is well anchored front and rear and Bud tells me it's a sweet shootin' gun. I believe him.

So if your pocket feels the pinch of prosperity in reverse look the old Krag over and you may be surprised that for about half the price of the new super you can have a new rifle gun that will place 'em better than you can usually hold 'em.

. . . *The End.*



The Trapper and the Law

By L. J. Kopp

WHEN it comes to the subject of arguing with and about the trapping laws, Pennsylvania trappers have proven, during recent years, that they are by no means an exception. However, after doing a bit of research and comparing our trapping laws with some of the laws in other states, I begin to wonder whether we really have so much to argue about.

My findings seem to indicate that we in Pennsylvania are privileged to more fully enjoy trapping than trappers in some other states.

For example; In Massachusetts a trapper must annually register all traps with the Division of Fisheries and Game, mark them with the users name and permanently stamp the registration number on each one. Furthermore, all traps must be designed to kill animuals at once or to take them alive and unhurt unless the city or town has voted suspension of the Anti-Steel trap provisions. In Massachusetts it is also unlawful to use scent or scented bait.

I would venture to say that in the eyes of the average Pennsylvania fox trapper, this would be another way of saying, "trapping is prohibited." Incidently, the fox in Massachusetts is considered as a fur animal and is protected as such.

All of which means that there is quite a difference between Penns Woods, and the Bay state.

With the exception of some half-hearted trappers, few Penns' Woods trappers complain about our license fees. On the question of whether our license fee is a good investment, I can assure you that Pennsylvania is way out front. If you don't think so, let's look at some other states.

In Iowa, the license fee is one dollar if you use fifteen traps or less. However, if you use more than fifteen traps, the fee is fifteen cents per trap. In other words, if you wanted to use a hundred traps, a license would cost you fifteen dollars.

Arkansas has a similar law. If trapper uses twelve traps or less the license fee is one dollar and fifty cents. If a trapper wants to use more than twelve traps, the fee is twenty dollars.

In Oklahoma the license fee is one dollar and twenty five cents if no more than ten traps are used. The use of more than ten traps is considered professional trapping and a license will cost the Oklahoma trapper fifty bucks.

Nevada has an intersting license requirement. A trapper can buy a license for one dollar, and this will allow him to trap all fur animals except mink and muskrats. Should the trapper desire to trap mink and muskrat as well as the other animals, he must buy an additional license costing ten dollars.

There are other aspects about this trapping license deal which may appear unusual to Pennsylvania trappers. In Florida for example, a resident license (state-wide) costs twenty five dollars; county, three dollars and twenty five cents; county other than that of residence, ten dollars and fifty cents. This means that if a trapper should decide to try his hand at trapping in a county other than where he resides, a license would cost him ten dollars and fifty cents.



Should the trapper decide to go back home midway through the season and trap at home it would be necessary to buy another license.

In our own state it's much more simple. All you need to do is move your trapping gear wherever you like. Three dollars and fifteen cents takes care of everything, including both hunting and trapping wherever permitted.

In Oregon, if a trapper wants to trap both predatory and fur animals he is required to buy two licenses. A regular hunting license costing three dollars is required to trap predatory animals. Should the trapper also want to trap fur aninals, he is required to also buy a trappers license costing six dollars.

In Kentucky we find another trapping law which may come as a surprise to most Pennsylvania trappers. It reads; "No person shall use a steel trap with a jaw spread of more than five and three fourth inches, or the jaws of which have a sharp or jagged edge, *or that have more than one spring for the purpose of closing the jaws,* or that has a spring which would normally be expected under ordinary circumstances, to exert a pressure sufficient instantly to cut through or break the leg of any wild animal protected by this chapter" (chapter includes fur animals). While I am not pretending to understand this law, I think it means that our favorite fox trap in Pennsylvania is not allowed in Kentucky, i.e. the double underspring type.

Insofar as I am able to find out, seven states including Alabama, Kansas, Louisiana, Michigan, Minnesota, Missouri and Utah do not permit non-resident trapping at all.

Probably the highest fee for a non-resident trapping license is $250.00 asked by Oklahoma.

California offers the least prohibitive non-resident license at $2.00 while the fees in the remaining states range from $10.00 to $200.01. This latter, odd figure is found in Mississippi.

In Iowa we find an altogether different view-point on this business of non-resident license fees. The law there reads, "Non-residents shall be charged the same fee that the State of the applicants residence charges a resident of Iowa for a non-resident license, providing such fee shall not be less than ten dollars; providing further that no such license shall be issued to a resident of any State which does not grant non-resident trapping licenses.

This seems to be a case of following the Golden Rule, but be that as it may, it sounds like a fair and square idea. It is doubtful that Oklahoma trappers will stampede to Iowa in search of a trapline. Even California trappers are better off at home.

While we are on the subject of comparing, it might be interesting to note that with the exception of Idaho, the individual States do have one thing in common, Aside from a few minor exceptions, trapping laws apply on a state-wide basis. However, Idaho is one exception, and, considering the method by which Idaho

harvests its annual fur crop, it would appear that fur resources are not taken lightly in that state.

The State of Idaho is divided into five districts, each district including a certain number of counties. Trapping laws are not based on a statewide basis, but on conditions in the individual counties, and the laws vary in accordance with fur animal population in each county.

It seems to me that trapping and law enforcement could lead to some complicated adventures under such a program, and maybe that is one of the reasons why state-wide laws are more popular.

The restrictions and almost prohibitive license fees in states such as Iowa, Arkansas, and Oklahoma are indicative of desperate steps designed to hold onto a rapidly dwindling supply of fur animals.

This is particularly true in Oklahoma where during the 1947-1948 trapping season a total of 112,430 animals were trapped. In Pennsylvania during the same season, 584,184 fur animals were trapped. In this connection, Louisiana is the only State which can do more than equal Pennsylvania in annual fur takes, and very few can equal Pennsylvania's fur population. Let's keep it that way.

. . . *The End*

NOTICE ON BOUNTY RATES
PENNSYLVANIA GAME COMMISSION
(Excerpt from Official Minutes, Pennsylvania Game Commission Meeting, January 10, 1952)

RESOLUTION

WHEREAS, After giving due consideration to the present predator population;

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101, of the Game Law, by resolution adopted this 10th day of January, 1952, hereby directs that for the period beginning June 1, 1952 and until further notice, the bounty payments authorized for the birds and animals enumerated below, if killed in a wild state in any County of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

1. *Gray Fox*—$4.00 for each gray fox.
2. *Red Fox*—$4.00 for each red fox.
3. *Weasel*—$1.00 for each weasel.
4. *Great-horned Owl*—$5.00 for each great-horned owl, adult or fledgling.

BE IT FURTHER RESOLVED, That the foregoing resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the March and April issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

"I hereby certify the above to be a full, true and correct copy of the resolution establishing bounties on certain predators killed in a wild state within the Commonwealth from June 1, 1952 until further notice. Notice of this action is published in accordance with the requirement of the law."

Thos. D. Frye,
Executive Director
Pennsylvania Game Commission



The Bow

Types - Materials - and Characteristics

By Thomas A. Forbes

Part 2

WHEN the bow is flexed and the fibres of the back of the bow are elongated, the fibres in the belly of the bow are placed under compression. In figure 12 the plane of the neutral axis indicated by the line CC divides the mass of the back of the bow from the mass of the belly. The law of elasticity applies equally to wood under compression as it does to wood under tension. When the bow is flexed or drawn the wood fibres of the belly of the bow are compressed and, within limits, when the external force is released the fibres will return to their original position. The properties of wood are such that it has greater compressive strength per unit area than tensile strength. Consequently when a bow is broken it generally fails by fracturing the fibres in the back of the bow rather than by crushing the fibres in the belly.

The bowyers aim is to achieve a nice balance between the forces of tension in the back of the bow and the forces of compression in the belly. Working together these forces give the bow its cast or propelling power.

Since the compressive strength of wood is much greater per unit of area than its tensile strength, excess wood was gradually removed from the belly of the bow to achieve a balance of the two forces. In this manner the modified flat bow evolved. Self bows of the modified flat type are popular among archers. The bows are durable, smooth in action and have an excellent cast.

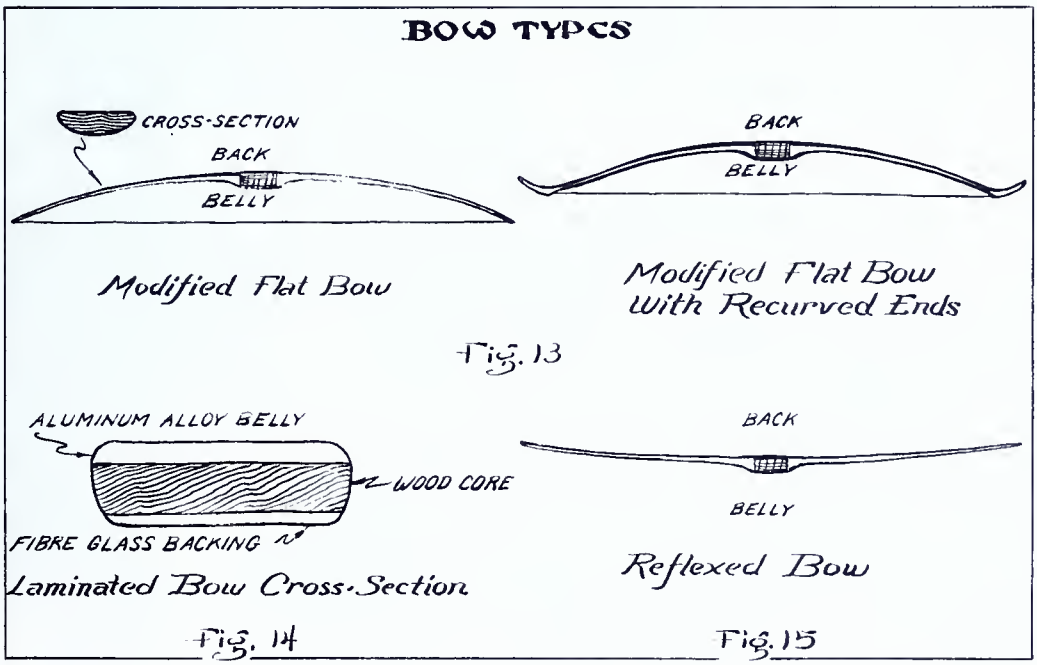
In the unceasing effort to develo better bows archers with scientifi training have made use of thei knowledge of wood stresses and im proved the modified flat type bow b recurving the ends of the limbs of th bow (Figure 13). Because wood ha greater compressive than tensil strength the ends of the limbs of th bow were recurved to take advantag of the compressive strength of th wood. In the recurved bow applica tion of external force created by th draw results in compressing the woo fibres in the back of the bow at th recurved portion. This is a reversa of the stress which occurs in the end of the limbs in the modified flat typ bow and is advantageous because o the greater compressive strength o wood. The ancient Persians wer familiar with the recurved bow, and although they had no knowledge o the underlying principles, they full understood the advantages of recurv ing the ends of the limbs and backin the bow with rawhide or sinew to im prove the cast.

The research chemists of the pas decade have provided the moder archer with backing far superior t rawhide and sinew formerly the ma terials customarily used. Since w know that the fibres in the back o the bow are under tension in th draw it follows that material selecte for backing should have a high tensil strength and elasticity so that it wil be slow to yield to fatigue throug repeated elongation and contractio

of the fibres. Its physical properties should be such that it is impervious to changes in temperature and weather. Certain of the cellulose compounds and fibre glass products marketed under different trade names meet these requirements. When a strip of one of these materials is cemented to the back of the bow the inherent power of the fibres elongated by the draw to return to their original position adds appreciably to the cast of the bow.

In the background we should always remember that the bowyer is searching for ways to improve the cast of the bow without a proportional increase in the amount of force required to bring the bow to full draw. It is no trick to build a self bow with an increased cross section that will have an improved cast. Unfortunately the drawing weight will have increased proportionally.

The next logical step in bow design was to build a laminated bow taking advantage of the knowledge of the internal stresses in different materials which vary in amount when the same external force is applied. A typical modern bow of this type has a fibre glass backing, a wooden core, and an aluminum alloy belly. In the draw the fibre glass elongates and the aluminum alloy contracts. The internal stress or force built up in the two different materials during the draw is taking full advantage of the high tensile strength and elastic properties of the fibre glass and the high compressive strength and elasticity of the aluminum alloy. The high compressive strength of the aluminum alloy permits reducing the cross sectional area of the belly of the bow below that of the wood self bow or a wood bow to which a backing has been applied. In consequence we find that the cross section of the laminated bow has assumed a rectangular shape with slightly rounded ends. (Figure 14). To gain additional propelling power by the continued application of force over a greater distance than had been heretofore possible the laminated type of bow has been designed to take advantage of the difference in the elasticity of the materials used in the face and belly. The bow has been constructed so that it is reflexed when unbraced (Figure 15). This construction permits the fibres in the back of the



bow to stretch farther when the bow is drawn and therefore act through a greater distance in propelling the arrow when the drawing force is released and the fibres return to their original position.

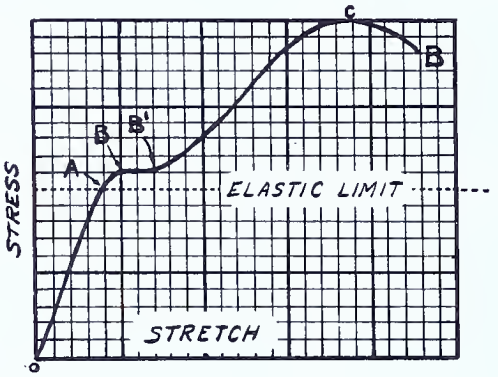


Fig. 16

Some difficulty was encountered when the laminated bow in its present form first appeared on the market a few years ago. Bow failure was common through separation of the laminations. A method of gluing has been perfected which prevents this type of failure. The author has shot one of these laminated bows over a two year period. The bow has a smooth action and beautiful casting power. With an underjaw anchor the author has a sight on the gold at one hundred yards with a drawing weight of thirty-four and a half pounds.

The Metal Bow

The elastic properties of metal are well known and the resilience of a metal bar under stress is the work done, upon the bar, in producing that stress, or in theory the work which the bar will do in regaining its original shape when relieved from stress. These two properties of a metal are used to advantage in many articles in common use. The automobile spring and the main spring in your watch are examples. The process of manufacturing steel is so controlled that the strength of various properties of the metal can be varied to conform to the use which is to be made of the finished product. The terms hard and mild steel are in commo use.

Under stress up to its elastic limi (graph Figure 16), a metal bar wi deflect in direct proportion to the e ternal force applied, *(OA)*. When th elastic limit, point *A*, is reached th stretch increases faster than the stre to point B which is called the yiel point. Stressed to and beyond thi point the bar will not return to i original shape when the stress is r moved. From *B* to *B'* stretch will in crease with little or no increase c stress. If we continue to stress th metal it will again resist the applic tion of continued increase in incr ments of stress but the correspondin stretch will be greater until the ult mate strength of the metal is reache at point *C*. Any increase of stress wi then cause rupture at point *B*. Th abbreviated course in strength of m terials will permit a better unde standing of the recent addition t bow materials; in the appearance o the market of the metal bow. Certai steels and aluminum alloys are use extensively in the manufacture of th metal bow.

Working within the elastic limi line *OA*, of these materials the life c a metal bow in theory would be lin ited only by the fatigue of the meta The molecular structure under r peated distortions will finally cry talize and break down. This is a slo but inevitable process.

. . . *To Be Continued.*

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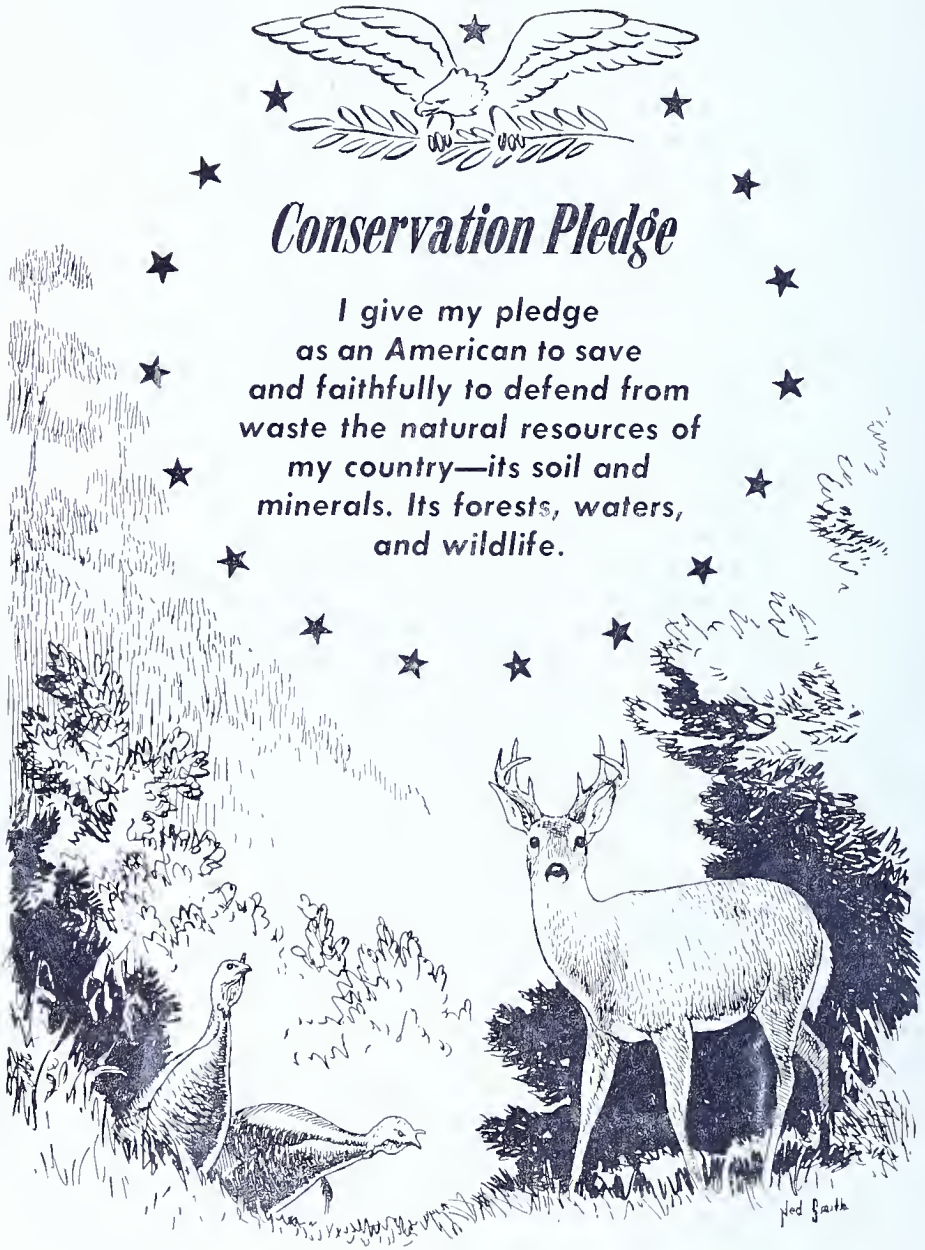
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I give my pledge
as an American to save
and faithfully to defend from
waste the natural resources of
my country—its soil and
minerals. Its forests, waters,
and wildlife.

Ned Smith

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